Gas Journal

Vol. 253. 100th Year. LONDON, MARCH 24, 1948. No. 4425. Price 1/-

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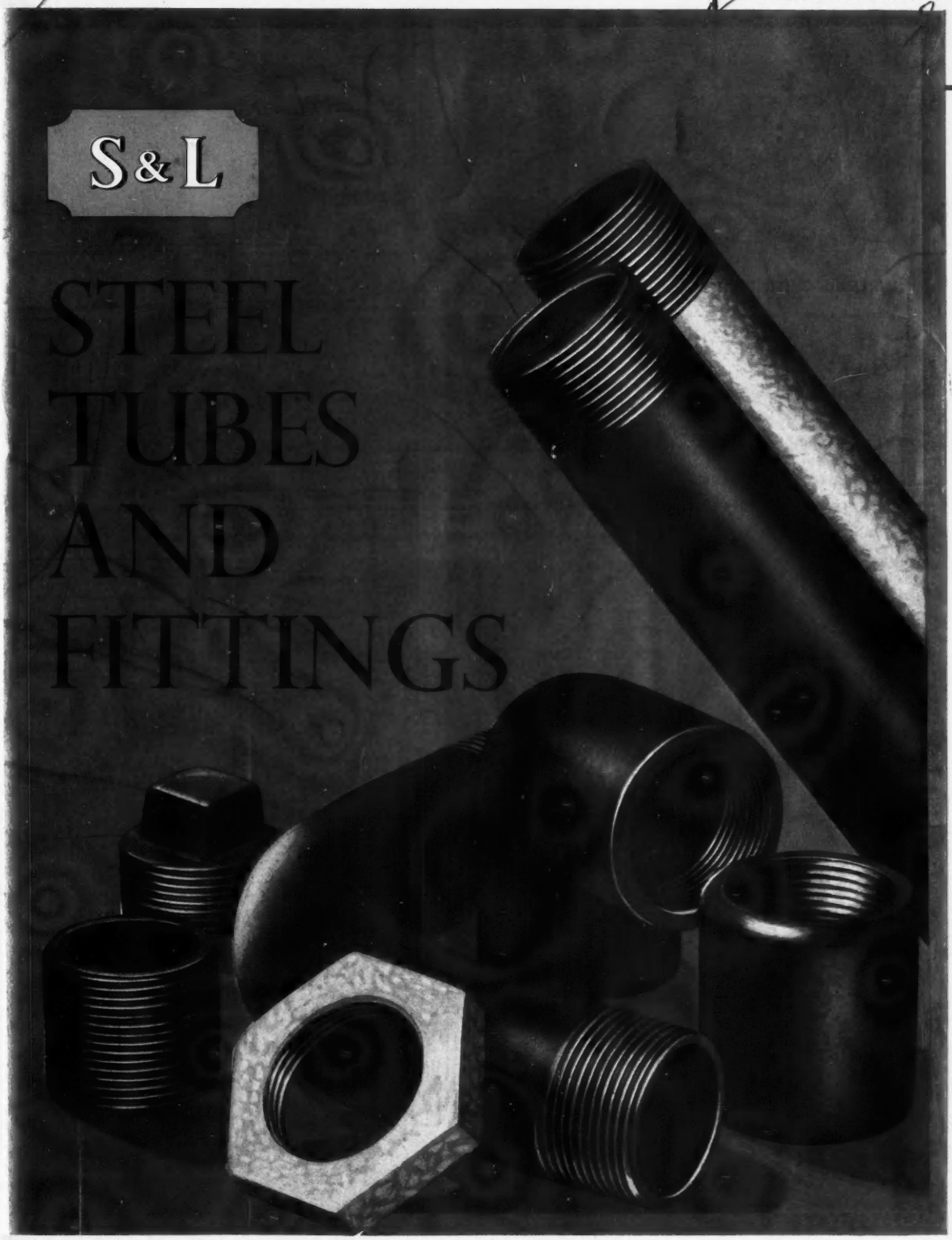

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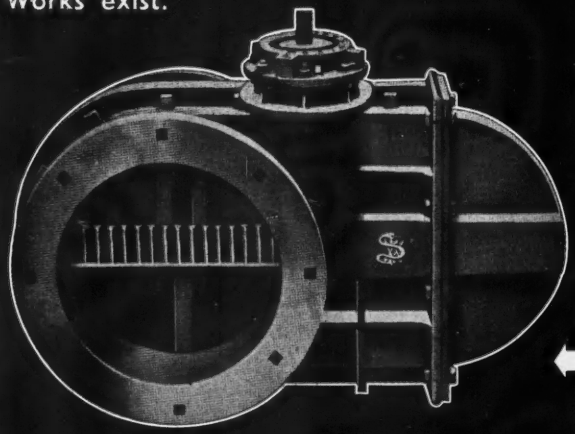

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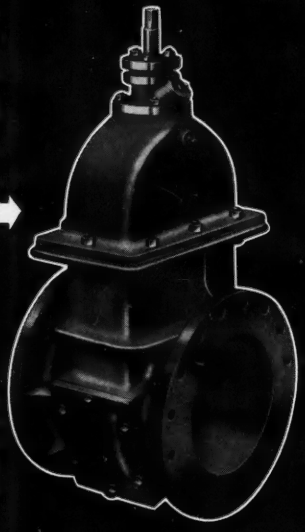
The Standard Donkin Rack and Pinion Low Pressure Valve which has been in general use for a great number of years.



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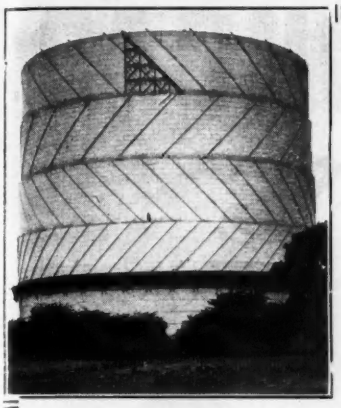
GAS WORKS PLANT ENGINEERS · CHESTERFIELD



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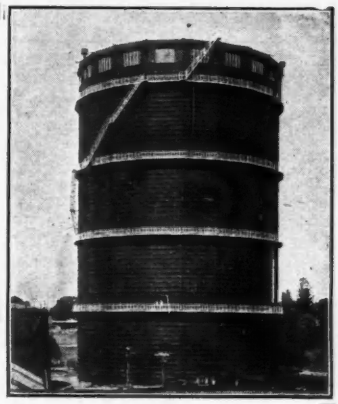

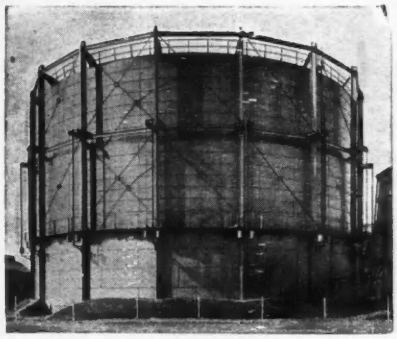

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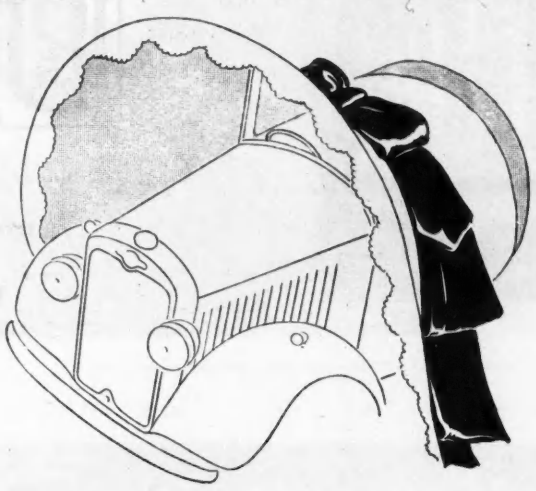
A

Her bonnet gives her age away!



Because Morris-Commercial vehicles in the years before 1939 were built with such a margin of stamina, they were able to give faithful service all through the war with the minimum of attention and are still, many of them, doing a grand job of work. Thorough workmanship and conscientious servicing have one aim and one result — to keep as many vehicles on the road as possible in the national interest.

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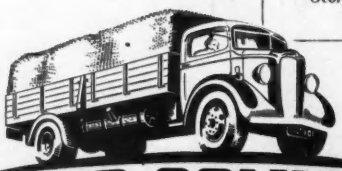
Extract from a letter received from Messrs. George H. Anderton Ltd., of Howden, Yorkshire



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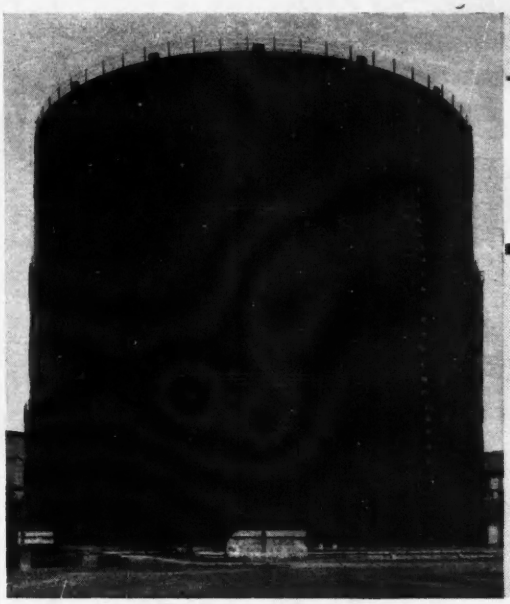

THREE LIFT SPIRAL GUIDED GASHOLDER IN EXISTING BRICK TANK AT BLACK ROCK WORKS, BRIGHTON.

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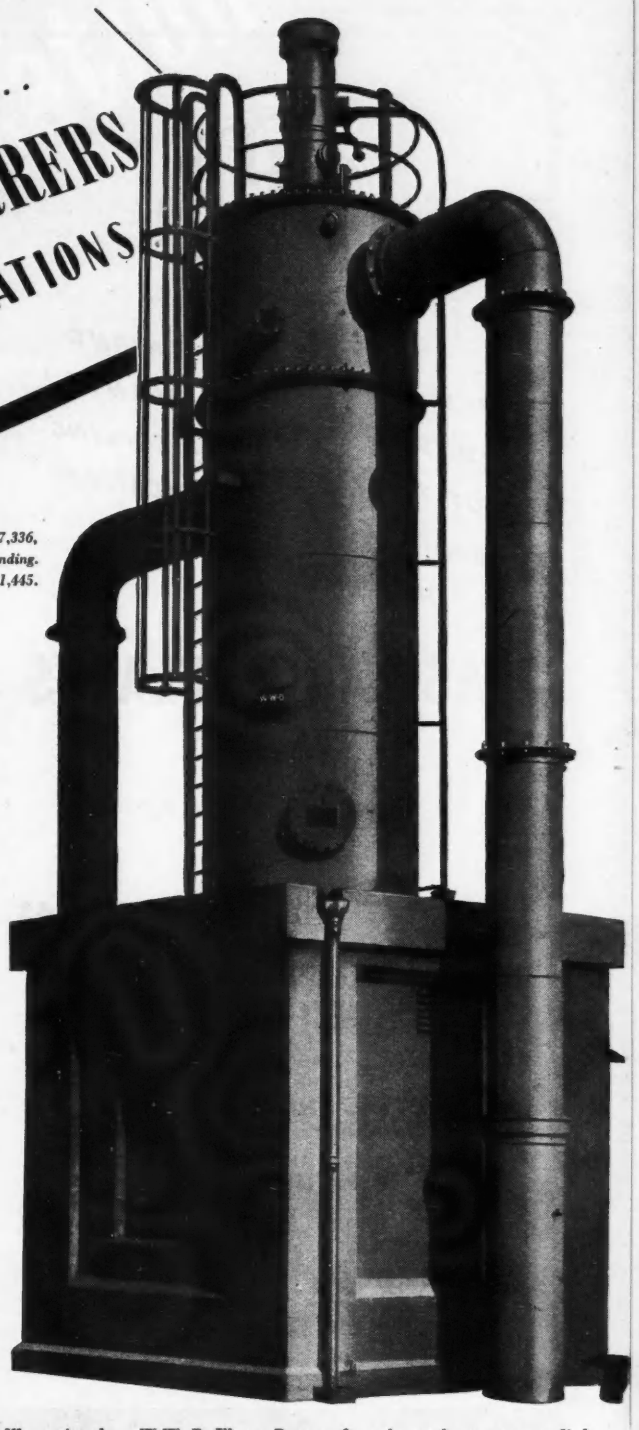
P10

The Standard FOR COMPARISON . . .

W.W-D. ELECTRO-DETARRERS

MORE THAN 180 INSTALLATIONS

Patent Nos. 428,471, 557,336, 565, 885 and others pending. Regd. design No. 841,445.



EVERY worth while development in electro-detarring has been pioneered by Whessoe. Features introduced by Whessoe include the employment of static selenium rectifiers, exposed H.T. rectifier equipment and H.T. Switchgear, the Castell interlocking system, single-insulator discharge electrode assembly suspension, anti-swing central discharge electrode, corrosion-fatigue resisting stainless steel discharge electrodes, and many other important developments.

Whessoe have supplied more than 225 Treaters and Rectifier sets incorporating these features.

Illustration shows W.W.-D. Electro-Detarrer for carburetted water gas supplied to the order of Messrs. Humphreys & Glasgow, Ltd., for the Cardiff Gas Light & Coke Co. The capacity of this plant is 6,000,000 cu. ft. per day.

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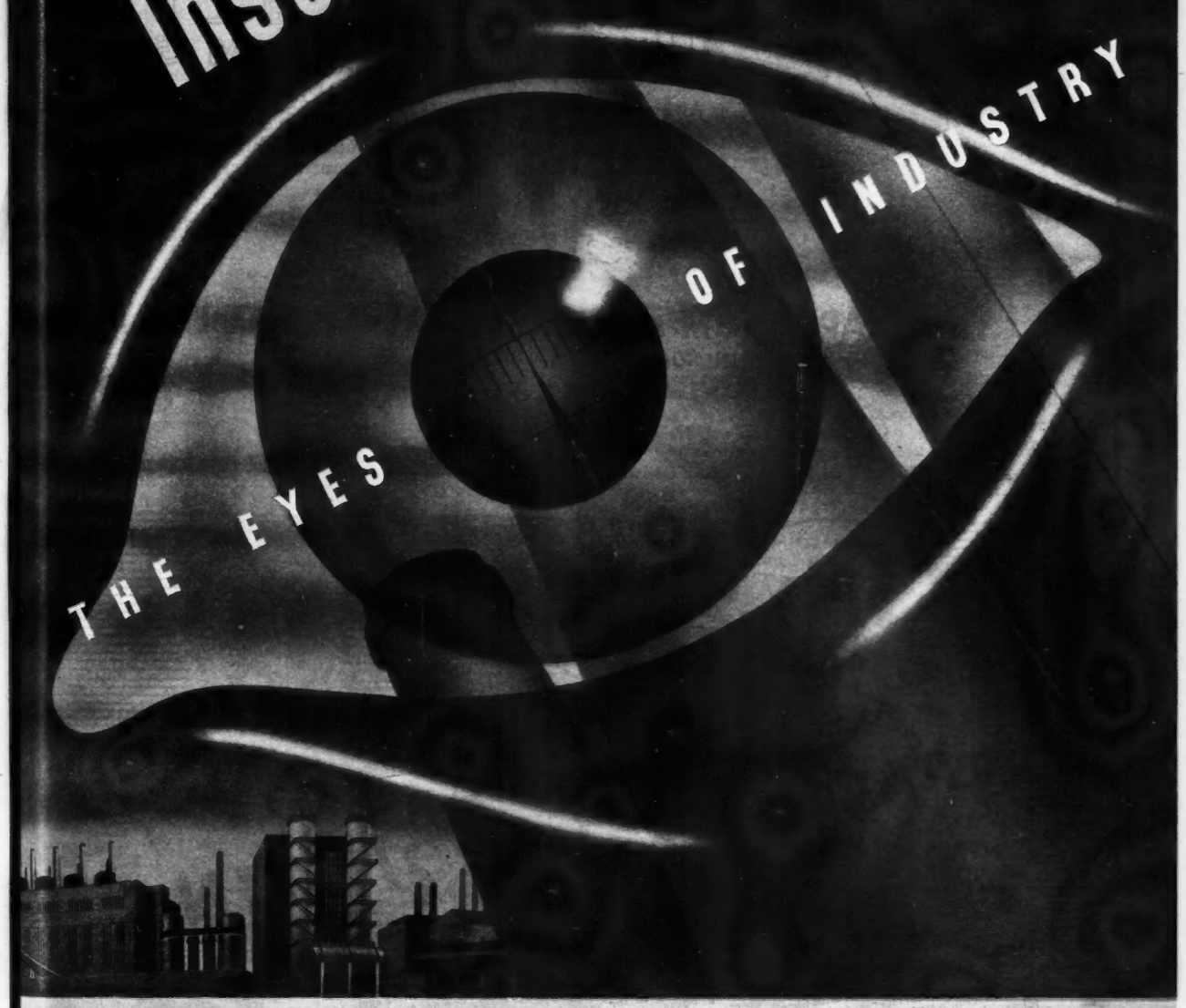

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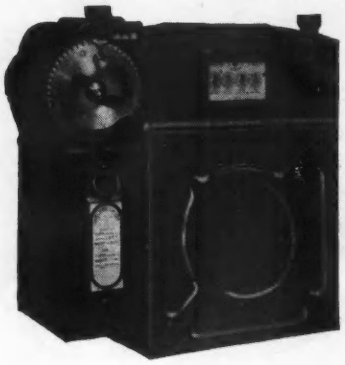

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Although our leathers carry the normal guarantee, meters returned from war-damaged premises for reconditioning have shown that our diaphragms in many cases are still completely accurate after being in use as long as 35 years.

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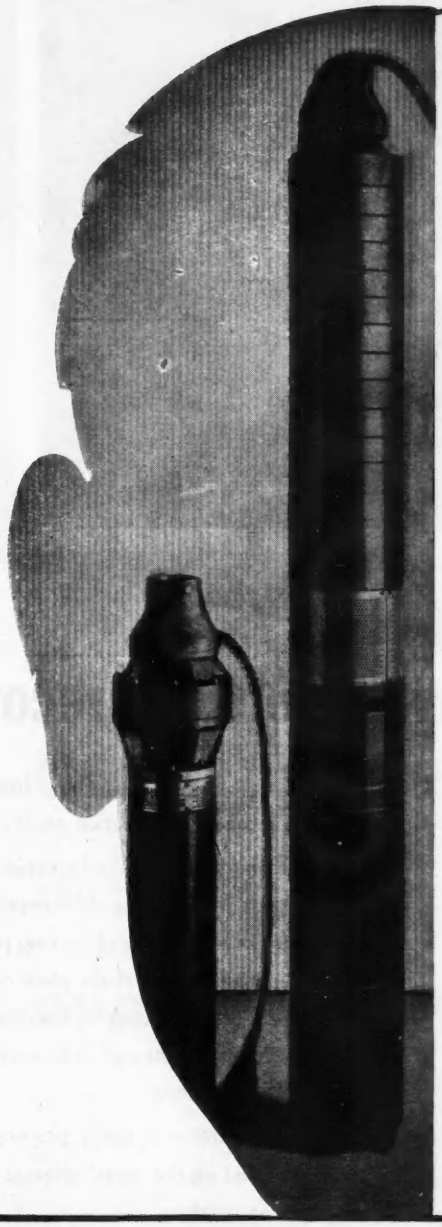

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Would it surprise you to learn that there was an electric pump within a few yards of you, pulling 40,000 gallons of clear cold water every hour from a deep well? You may know that there isn't, of course—but don't be too sure about it if you only know that you can't see one or hear one. A SUMO Submersible Pump, no matter how big its job, *works out of sight in the well, under water*. The motor and pump, joined into one compact unit, are suspended below the surface by the rising, main piping, which, with an electric cable, is its only connection with ground level.

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SUMO pumps run for 6,000 to 10,000 hours or more, in normal service, without attention. A Chance Brothers product, with more than a century of engineering reputation to back it, when once they're out of sight they're out of mind as well.

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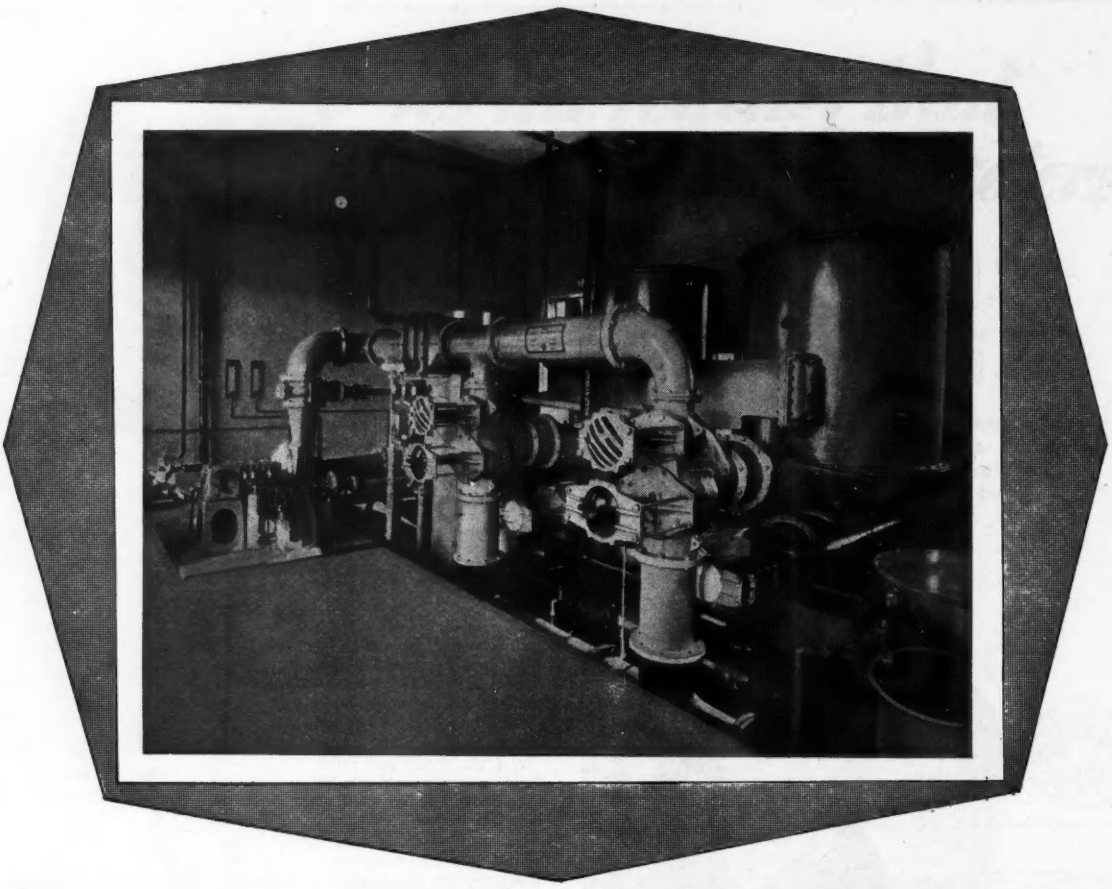
A Chance PRODUCT



What experience means to benzole recovery in the Gas Industry!

The plant you see above is typical of many Sutcliffe Speakman plants already supplied to the Gas Industry.

They are the result of over 20 years' experience in the manufacture and use of Active Carbon for recovery purposes in every branch of industry where solvents are used. They range in size from a capacity of quarter of a million cu. ft. per day, up to 86 million cu. ft. per day, recovering millions of gallons of valuable solvent per annum, which would otherwise have gone to waste.

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The complete unit is compact and occupies a very small amount of space. It is clean in operation, entirely automatic and has a minimum of moving parts. With all these advantages the cost of the plant compares very favourably with other systems. They are extremely economical in running costs and show a very handsome return on capital investment.

Our technical experts will gladly prepare a complete balance sheet based on the actual relevant data of any particular gas undertaking.

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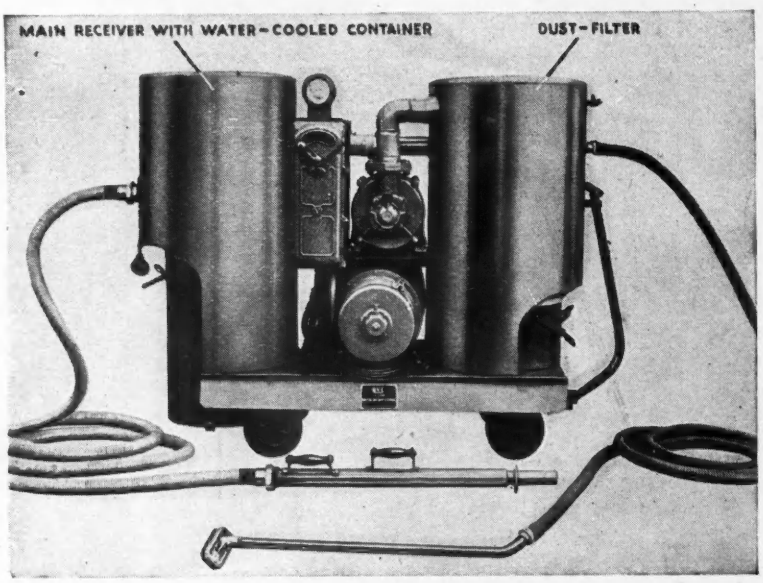
. . . but it's the greater strength of **Canalloy** which establishes its permanent use in gas appliance production

CANNON

CANALLOY —— EXCLUSIVE TO CANNON GAS APPLIANCES

THE B.V.C DUAL-PURPOSE GAS WORKS MODEL



The B.V.C. Dual-Purpose Gas Works Model is a very efficient mobile unit, with water-cooled container for the removal of hot dust from the tops of retorts. Can be used for general cleaning by either one or two operators.

We shall be pleased to send you full information on request.

B.V.C. Flue Dust Removal Plant Equipment is used by: The Gas Light & Coke Co. (Beckton, Nine Elms, Southall and Brentford). The Birmingham Corporation Gas Co. The Cardiff Gas Co. The Birkenhead Gas Department. The Commercial Gas Co. The Reading Gas Co., etc., etc.

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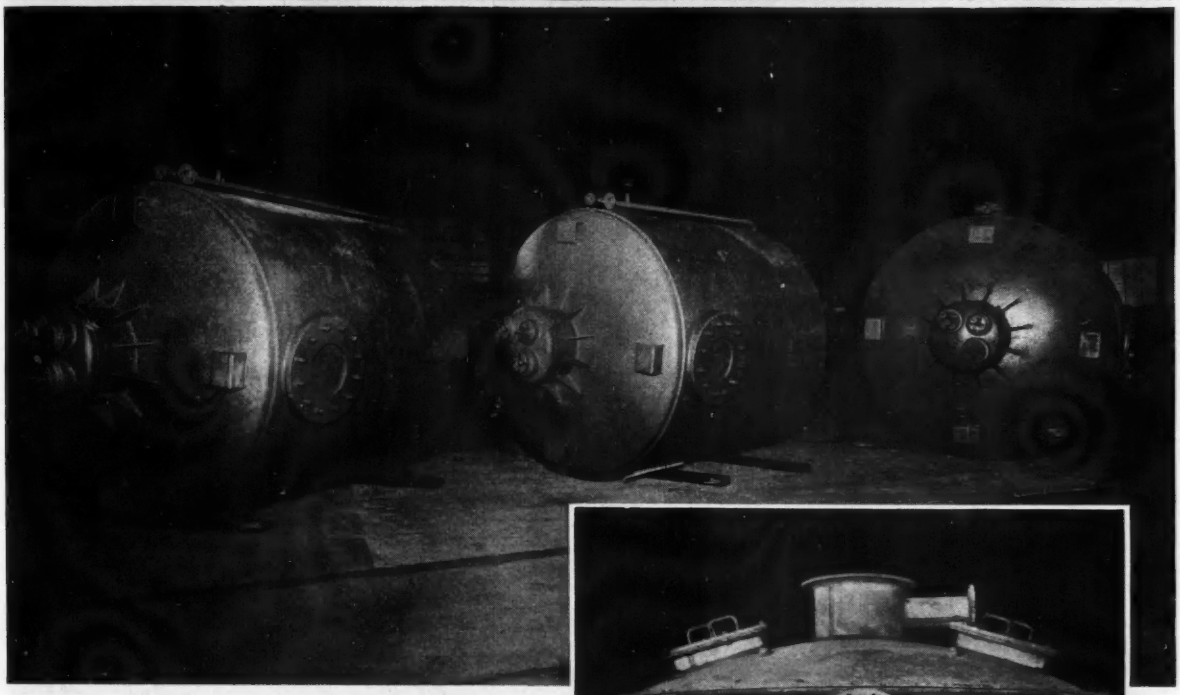

The upper illustration shows a typical WIDNES job — fabricated mild steel viscose kettles 7 ft. 1 in. diameter by 7 ft. deep on the straight, part of an order for 25, fabricated in accordance with BSS 487.

* * *

The engineering service offered by WIDNES FOUNDRY includes fabrication in mild and stainless steels of specialised plant and equipment for the chemical, gas, oil and allied industries. The fabrication of Coolers, Condensers, Storage Tanks and similar constructional work is the logical parallel to production of special purpose castings for the industries mentioned. In foundry work and in fabrication in steel WIDNES offer a skilful, comprehensive service to industry.

The inset illustration shows an acetone plant absorber fabricated from ¾ in. plate; overall diameter 9 ft. 6 ins., weighing 4¼ tons.

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That same year also saw the first manufacture of MANOX Oxide. Output and quality have advanced consistently since then until now, gas undertakings all over the country rely upon MANOX Oxide to play its part in the industry's ever-increasing production.

℗ 4

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Such a combination of delicacy with strength reminds us of the 'Multitest' diaphragm—durable and tough, yet supple and sensitive. The action of 'Multitest' diaphragms is smooth and easy, keeping the pressure absorption in gas meters and governors down to the minimum. Accuracy and efficiency are correspondingly increased, while the durability of the 'Multitest' diaphragm means greater freedom from running faults.

Each one is subjected to rigid tests and inspections at all stages of manufacture. Special processing of the carefully selected leather protects the diaphragm against corrosion.

'Multitest' diaphragms give trouble-free service for years—they are made that way. Specify them always.

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Wellington Works, Queen Street, Great Harwood, Lancs.

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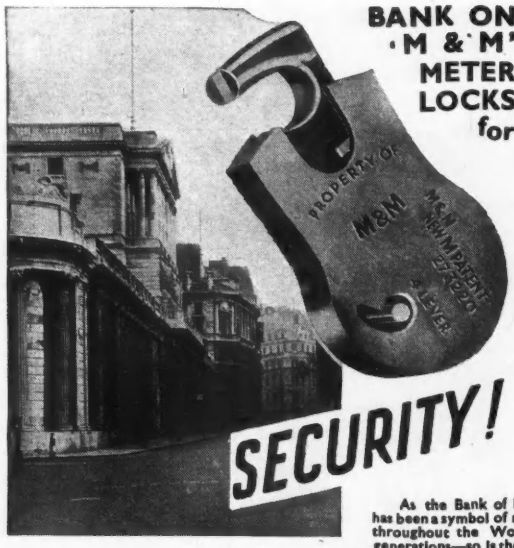

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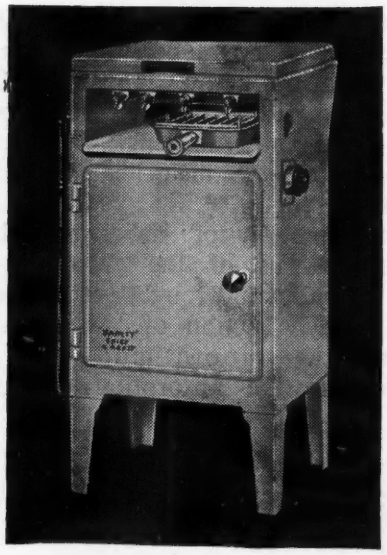
The DAINTY Chief



Streamlined modern design, cast iron construction and many other special features—notably economical consumption of gas.

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. . . WITH LARGE INDICATING SCALE AND POINTER IN ADDITION TO CHART RECORD ALLOWS OBSERVATIONS ON THE WORKS AND IN THE LABORATORY TO BE MADE AT ANY TIME . . .

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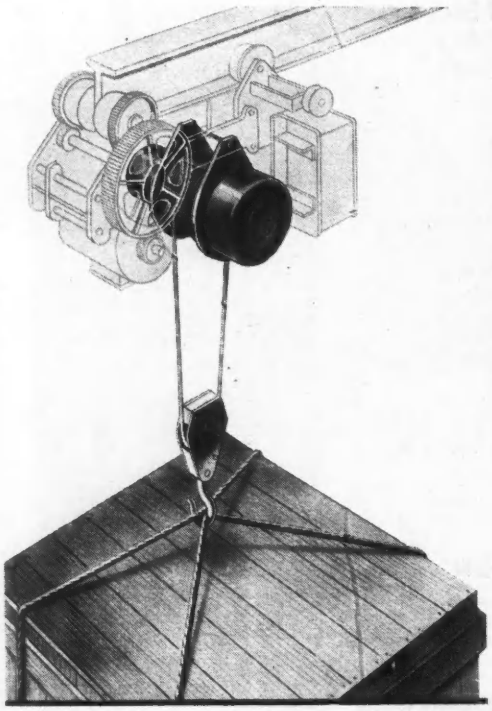

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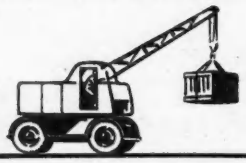

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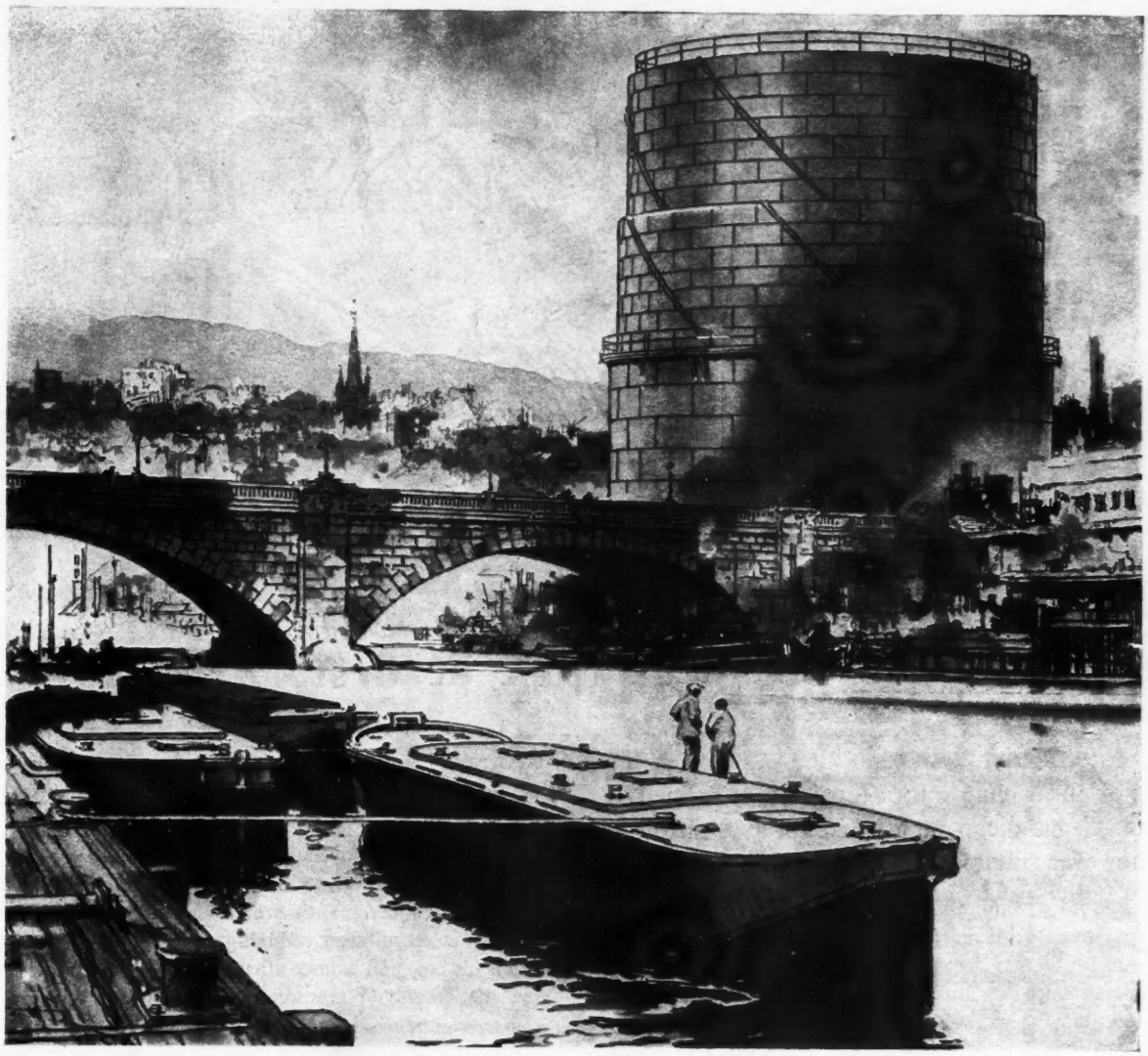

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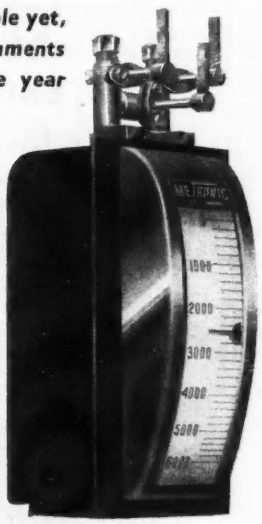

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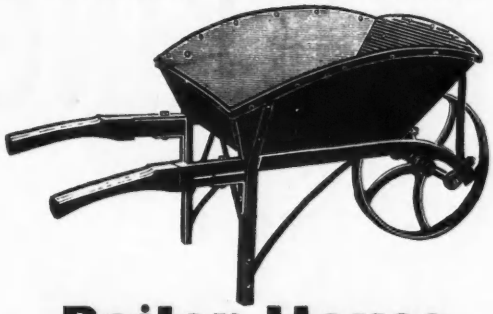

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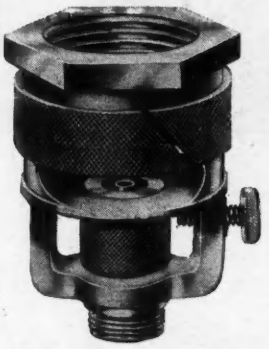

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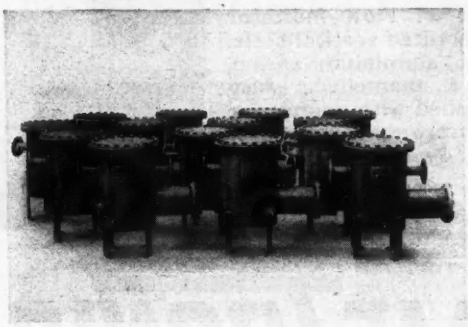

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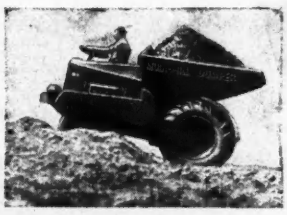

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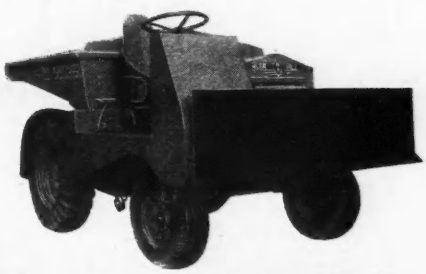

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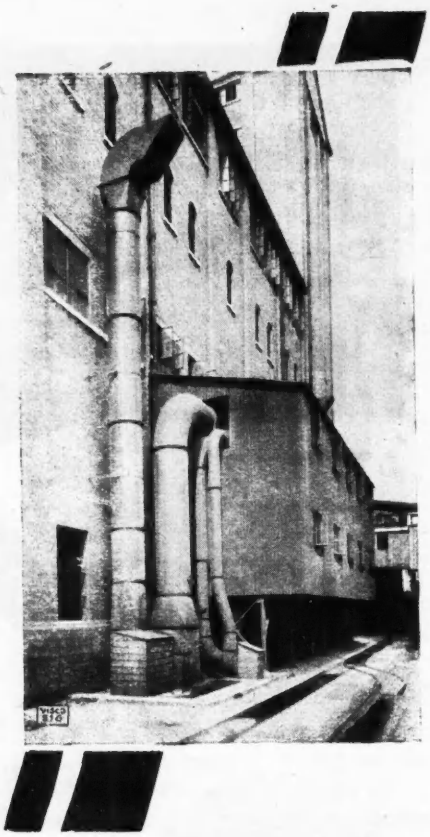

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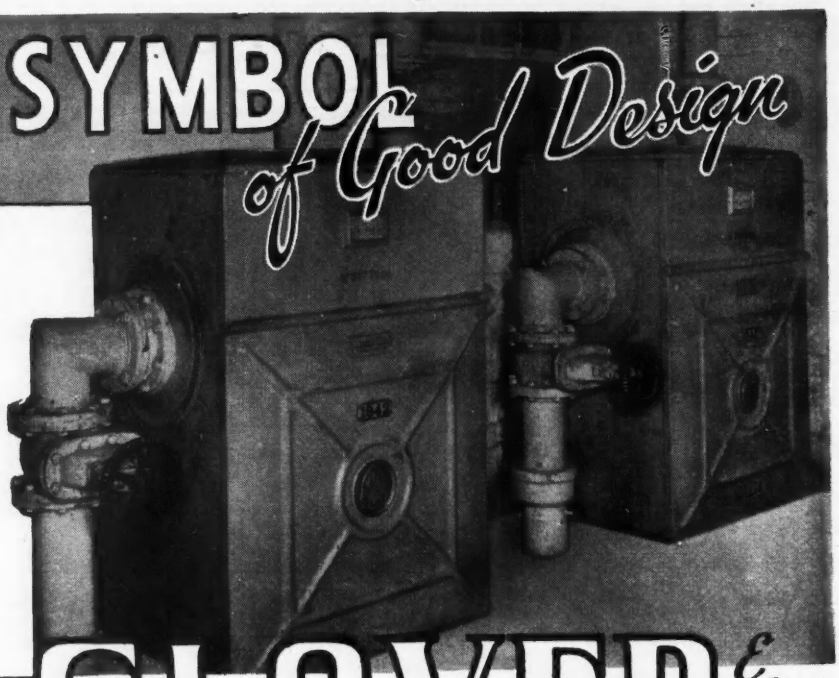

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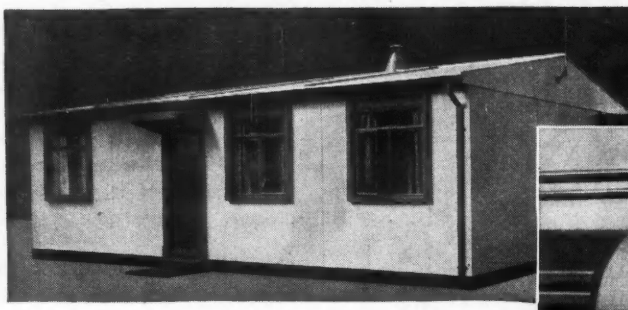

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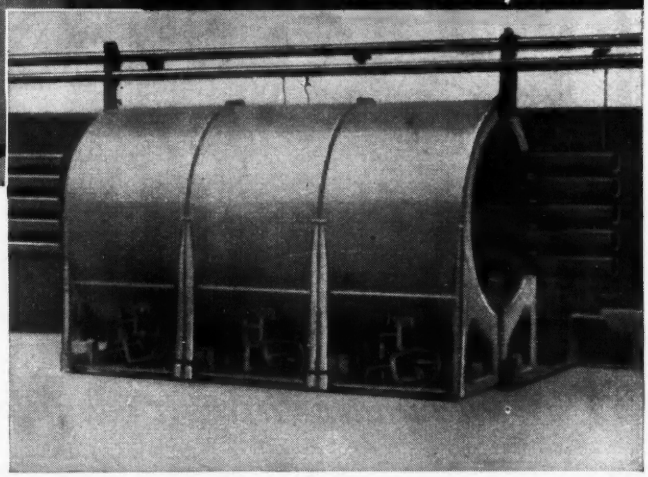

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GAS JOURNAL

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LABOUR SAVING

IN an article in the "JOURNAL" of Sept. 10, 1947, Mr. Muir Wilson, of the South Metropolitan Gas Company, wrote: "We do all we can to take away from the men the idea that they are doing futile work, such as wheeling barrows when tractors should be used, poking pipes which ought never to be stopped, and using shovels when excavators should be used. These things may not appear to pay on paper, but the financial gain can be great, because work is always done better by men who feel that their labour has some dignity above that of a donkey." In a joint paper with Mr. E. A. Laundy, to the Eastern District of the Southern Association of Gas Engineers and Managers ("JOURNAL" of Feb. 4, 1948), Mr. Wilson explained how the poking of pipes can be minimized. This paper was followed by a further one to the same Association by Mr. J. D. C. Woodall (last week's "JOURNAL" and to-day's issue), in which the author discussed the betterment of working conditions in gas-works by the more extended use of mechanical handling plant. Mr. Woodall presented a very good case for the installation of such plant in comparatively small works, suggesting that the saving of one man justifies a capital expenditure of not less than £2,000. In any case, apart from any saving in wages, the cost of installing machinery may be justified solely on account of improvement in working results. Mr. Woodall is Engineer and Manager of the Maidstone Gas Company. During the discussion on the paper, the author's predecessor at Maidstone, Mr. W. A. Howie, contended that the figure of £2,000 mentioned could legitimately be raised, under current conditions, to £3,700. Any expenditure of this order incurred through the introduction of mechanical plant to do away with dirty manual work on a gas-works is, he argued, justified. Also during the course of the discussion, which was in practical terms following what was essentially a practical paper, Mr. H. M. Lawrence, of the Gas Light and Coke Company, spoke as an unashamed advocate of complete mechanization for handling materials. He mentioned that mechanical handling machines developed during the war could well be employed much more extensively for a wide variety of purposes in gas-works. Again focussing attention on the author's figure of £2,000, Mr. Lawrence said that he could think of at least half a dozen mechanical handling machines which cost less than £1,000 and saved not just one man's labour but the labour of dozens of men. More than one speaker waxed almost lyrical on the virtues of small bull-dozers, and it was held that such equipment would be more widely used in gas-works in the future.

DRY PURIFICATION

WHILE it remains true that we still await a practicable alternative to oxide purification it must be admited that the "mechanics" of this old and well-tried process is still something of a mystery. There are several rules extant, for instance, for fixing the dimensions of the boxes or alternatively the quantity of new oxide required to purify a given volume of gas. It would appear that any rational rule should be based on the time contact between gas and oxide. One such rule reads R = cubic feet of gas per hour make/cubic feet of oxide in one box, where R is a constant lying between 25 and 30. Such a figure would mean that a box 30 × 30 × 6 ft. deep—i.e., with a cubic capacity of 5,400 cu.ft.—would deal with 81,000 cu.ft. of gas per hour, or, say, 2 million cu.ft. per day.

Another rule allows for a definite time contact with the whole body of purifying material; 7½ minutes is suggested. Assuming that the oxide occupies half the cubic content of the box, we arrive, on this basis, at the result that the boxes in operation would deal with about 100 times their own volume per day, which would give a similar capacity for boxes of the size mentioned above.

It is very difficult to extricate a similar rule from the paper published in the March issue of "Gas," which Mr. Martindale presented to the Yorkshire Juniors. But he approached the problem from another angle which may be equally useful, that of the number of box changes per unit of gas volume. For many years, he says, he used a limiting quantity of 240 million cu.ft. per change, but he does not, it seems to us, give the "other factor," the time factor. With that remark we go on to say that Mr. Martindale's paper is an excellent example of "Junior" work. It strikes a very high stand of industry and application to detail. Looking back to Colonel C. M. Croft's paper of 1939, to the Institution of Gas Engineers, there appears to be no advance in dry purification beyond that of the tower purifier which he so ably described and discussed. The reasons which were then adduced for its adoption, at any rate on a sufficiently large scale, stand unchallenged—reduction in ground area occupied by purifying plant, reduced cost of construction and maintenance, and reduction in the handling costs and the time required for changing the material. In short the tower purifier stands as the last step towards the complete mechanization of this well-established process with the greatest possible economy so far achieved.

THE BUILDING CENTRE

IT is now 16 years since a committee of architects and builders founded an exhibition cum bureau which they called the Building Centre, its purpose being to make available for study examples of every type of material and equipment used in buildings, and at the same time to dispense, on request, information and technical advice on all subjects related to architecture, methods of building, and installation. Its present handsome home at 9, Conduit Street, W.1, has not been attained without overcoming numerous obstacles, due to the war and other influences, and its reputation is probably unique in any industry, anywhere in the

world. It works with the approval of the Royal Institute of British Architects and acts as an encyclopædia to the builder and architect, a mentor to the student, and a sort of family doctor on building matters to the general public, many of whom are advised to cross its threshold in order to see for themselves a material or appliance they envisage utilizing in their homes, and its alternatives.

These facts are widely known, as is the presence in the Building Centre of a semi-permament display by the British Gas Council, in connexion with the Gas Light and Coke Company, constituting a comprehensive domestic and commercial appliance showroom for the whole gas industry. Yet although these facts are familiar to almost everyone in the industry, the gas section and its deep significance appears to excite little interest or appreciation. It is not fully realized that this section occupies the role of an ambassador, upon whose behaviour and effectiveness is based the opinion of an incalculable number of people, many of them influential. We might suggest that the section holds in the palm of its hand the good name of gas as a fuel, of every undertaking in the British Isles, and every gas appliance available, in as much as the section comes into contact with and influences not only those who make decisions to-day, but those students of architecture or domestic science who will make their decisions to-morrow.

In recognition of this heavy responsibility and the altogether laudable manner in which it is undertaken, we publish this month in "GAS SERVICE" a review of the Building Centre's history, its present form, and an estimate of the part played by its gas section in the general welfare and progress of the gas industry. The latter aspect has been examined with particular care and many of the section's experiences and modes of operation have been noted. It is suggested that the article to which we refer serves not only as a reminder to those who may have overlooked some of the significance of the Building Centre's work, but as enlightening food for thought for those whose sojourn in the industry may be of shorter duration and whose experience to that extent may be less wide.

SOLID SMOKELESS FUELS

THE formation of the Solid Smokeless Fuels Federation a little over two years ago was an obvious sequel to the steady development of the Gas Coke Associations, the research and utilization activities of the hard coke interests, and the co-operative efforts of the producers and distributors of anthracite and Welsh dry steam coals. The three industries had a common aim in promoting the efficient and economical use of solid smokeless fuels. When fuels generally were more plentiful there was a certain amount of competition, but as the necessity for the strictest conservation of all fuels became more clearly recognized they came together, pooled their resources, and sought to encourage satisfactory relations with all kindred interests.

Elsewhere in this issue we publish extracts from the report of the Federation for the year 1947. These necessarily brief extracts scarcely do justice to an organization which from its inception has been well served by those whose main interests are concerned with gas coke. Collaboration among solid smokeless fuel interests made its first big impression in the "Good heating for every home" exhibition in London—unique among exhibitions in those early post-war days in that it was a display of appliances actually in production, with prices and names of suppliers, enabling architects and others to know exactly where they stood in regard to supplies. One result of that exhibition was that the manufacturers of insulating materials formed themselves into a Structural Insulation Association, recognized by the Government, which has since done much to promote a public appreciation of the substantial advantages and economies that can be effected by the proper insulation of buildings.

Since that exhibition the Solid Smokeless Fuels Federation has produced, in connexion with more recent exhibitions, a booklet describing the production and preparation of solid smokeless fuels and giving a table showing the recommended sizes of fuels for various types of appliances, the purpose being to demonstrate the progress made in providing more efficient and better heat service in the home through the development of solid smokeless fuel appliances. The Federation had a stand in the 1947 Ideal Home Exhibition, but has not taken any official part in this year's display. The report clearly shows, however, that the Federation is a live and active body, whose constitution has already been affected by the nationalization of the coal industry and will possibly be further affected when the nationalization of the gas industry is accomplished. Whatever the future may hold by way of changes in ownership, however, the need for developing and extending research on solid smokeless fuels and encouraging their efficient utilization will remain, and there will always be work for some such organization as the S.S.F.F. to perform.

GAS ON THE AIR

Following the broadcast concerning the British Gas Council's "Seven Ages of Woman" exhibit at Olympia on the opening day of the Ideal Home Exhibition, gas was again on the air in Woman's Hour next day, when Miss Audrey Russell, of the B.B.C., discussed the exhibit with Mr. James Gardner, the designer of the pavilion. The gist of the discussion was that when it came to selecting what should be illustrated by painting and sculpture and what should be displayed in reality it was found that so many things were derived from gas that there was very little left for the painting. Miss Russell concluded: "You have to see the exhibit to appreciate in how many ways we are dependent on the gas-works."

Personal

Messrs. Dewrance and Co., Ltd., announce the appointment of Mr. V. FRASER ROSS as their representative for Eire with headquarters at 27, Kincora Road, Dublin. (Telephone No. 35933.)

* * *

At a recent meeting of the Board of the National Benzole Company, Ltd., Mr. A. HITTINGER, Managing Director, was appointed Chairman of the Company, in place of Mr. J. H. OLLIVER, retired, and Mr. G. A. HEBDEN was elected Deputy Chairman. Mr. R. J. SMITH was appointed a Director.

* * *

Mr. W. J. G. BRYCE, of Rainhill, Liverpool, has been appointed Deputy Engineer to the Spalding U.D.C. Gas Department. He was trained at Liverpool Technical College and Birmingham Central Technical College, and is at present Senior Technical Assistant to the Prescot and District Gas Company. During the war he served with the R.A.F. as a pilot in Coastal Command with the rank of Flying Officer.

* * *

Mr. F. W. SUCKER, Chief Complaints Clerk to the Sheffield and District Gas Company, has retired after over 41 years' service with the Company. Presenting him with a chiming clock and wrist watch on behalf of his many friends in all departments, Mr. A. Wylie, Sales and Fittings Superintendent, remarked that Mr. Sucker had never once been late reporting for duty during the whole of his service with the Company, and said that this was an achievement of which anyone might well be proud.

* * *

Dr. J. BURNS, G.M., Ph.D., has just been appointed Deputy Chief Engineer of the Gas Light and Coke Company. He is a native of Inverness-shire and graduated B.Sc.(Aberdeen) with First-Class Honours in Chemistry. He entered King's College, Cambridge, on a post-graduate research course, studied chemistry under Professor Pope, and graduated Ph.D.(Aberdeen). He joined the Company's Research Department, Fulham, in 1929, and a year later was sent to work in Germany on the large scale development of processes of interest to the Company. On his return to England he was engaged on the testing of carbonizing and water gas plants, and in 1941 was appointed Acting Deputy Station Engineer at Bromley Works, where he was awarded the George Medal for outstanding gallantry when the works were subjected to enemy attack. In 1943 he was appointed Station Engineer at Stratford, and in 1946 became Group Engineer of Group I of the Company's gas making stations (Beckton and Southend). Latterly he has been engaged particularly on developments on the coke ovens and the water gas plant at Beckton.

Mr. A. W. DICKENSON, M.Inst.Gas E., M.Inst.F., Industrial Gas Engineer to the West Riding Group of Gas Companies, has been appointed Regional Fuel Engineer (North Region), Ministry of Fuel and Power. In 1939, after serving the Croydon Gas Company as Chemist, Fuel Engineer, and Industrial Gas Engineer, he was appointed by the United Kingdom Gas Corporation to develop the industrial gas load in the West Riding area. When the Castleford Group was enlarged to the West Riding Group he was again put in charge of the industrial side. Industrial gas sales increased from 140 million cu.ft. per year in the original Group in 1939 to 1,200 million cu.ft. in the present Group in 1947.

* * *

The Industrial Gas Development Committee gave a farewell luncheon to Mr. DEAN CHANDLER, on his retirement, at the Goring Hotel, on Mar. 18. Mr. W. Dieterichs, Chairman of the Committee, in making a presentation to Mr. Chandler, referred to the good work and loyal support which he had given to the Committee since its inception in 1933. The Committee had lost an active member and it would be difficult to replace him. Mr. Chandler would always be known to all the members of the Committee as a kindly, helpful, and sympathetic person. Mr. Chandler, who was presented with a week-end case and a gold mounted umbrella, said that he was deeply appreciative of this gesture and he would always recollect his time with the Committee as being very happy. He paid tribute to the work of the Committee in the industrial and commercial gas field and felt sure that had it not been for the forethought of the late Sir David Milne-Watson and other seniors in the industry in setting up this organization, the position of industrial gas would not be what it was to-day. He praised Miss Buckland for her activities in the work of the Committee and, in appreciation of the help which she had given him personally, presented her with a bouquet.

Diary

Mar. 30.—**Southern Association of Gas Engineers and Managers (Eastern District)**: "The Removal of Hydrogen Sulphide from Coal Gas," G. U. Hopton, B.A., B.Sc., A.M.I.Chem.E., Fulham Laboratories, Gas Light and Coke Company. Gas Industry House, 2.30 p.m.

April 1.—**Solid Smokeless Fuels Federation**: Executive Committee, Dorchester Hotel, Park Lane, W.1, 11.30 a.m.

April 8.—**Midland Counties Coke Association**: Annual General Meeting, 2.30 p.m.

April 9.—**North British Association of Gas Managers**: Spring Meeting, Lesser City Hall, Perth, 11 a.m. (Preceded on Apl. 8 by Golf Competition for the Winson Scott Cup over the King's Course, Gleneagles.)

April 13.—**Federation of Gas Employers**: Central Committee, Gas Industry House, 11.30 a.m.

April 16.—**Institution of Chemical Engineers**: Annual Meeting, Connaught Rooms, 11.45 a.m. Luncheon 1 p.m.

April 30.—**Manchester District Association of Gas Engineers**: Annual Luncheon and Meeting, Grand Hotel, Manchester.

THE GAS RESEARCH BOARD

The seventh annual general meeting of the Gas Research Board wil be held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1, on Tuesday, April 20, at 10 a.m.

After the formal business of the meeting, the Report of the Council for the year 1947 will be presented by the Chairman, Dr. H. Hollings. The Director will then submit, for discussion, his Report on the year's work.

The afternoon session, commencing at 2.45 p.m., will be devoted to the presentation and discussion of two scientific papers. The first paper is by Dr. M. Maccormac (Gas Light and Coke Company) and is entitled "The Production of Peak-Load Gas by the Partial Combustion of Oil." The second is a theoretical paper, which has arisen from the programme on combustion research by, Dr. R. S. Silver, Joint Assistant Director of the Gas Research Board.

All those interested in the work of the Gas Research Board are cordially invited to attend, but only the accredited representatives of member firms or undertakings, or individual members of the Board, will be empowered to vote on matters relating to the business affairs of the Board.

Admission to the meeting will be by ticket only. The papers and discussions will be published after the meeting by the Gas Research Board. Applications for tickets and for publications (2s. 6d. per copy to non-members) should be made to the Secretary, Gas Research Board, 1, Grosvenor Place, London, S.W.1.

Trade Statistics for January, 1948, just issued by the Department of Industry and Commerce in Eire, show imports of 14,161 tons of gas coal, valued at £54,135, as against 18,249 tons, valued at £55,467, in January, 1947.

News in Brief

The Annual Luncheon and Meeting of the Manchester District Association of Gas Engineers will be held at the Grand Hotel, Manchester, on April 30.

Gas Deliveries at Stoke-on-Trent during February exceeded all previous daily, weekly, and monthly records. The figures were: Daily, 18,280,000 cu.ft.; weekly, 124,530,000 cu.ft.; monthly, 495,863,000 cu.ft.

We Were in Error in stating, in our review of the Ideal Home Exhibition, that the Hawkesley aluminium house contained a Parkinson "Renown" cooker; it was, in fact, a Radiation "New World" No. 1430.

The Institution of Gas Engineers inform us that the discussion edition of the Gas Research Board Communication dealing with wind-tunnel experiments on models of a spirally-guided gasholder is now available from the Research Board at the price per copy of 2s. 6d. (post free).

Tube Investments, Ltd., announce that the price of all their electrically welded tubes, and of all components and products made from them, are to be reduced by 2½%. The prices of these products have not been increased since August, 1946, in spite of increases in the cost of production which has taken place, including two rises in the cost of steel.

The Headquarters of the National Coal Board have been transferred from Lansdowne House, Berkeley Square, London, to permanent premises at Hobart House, Grosvenor Place, Victoria. It is expected that the transfer will be completed by the end of the Easter holidays. The man-power and welfare department of the Board will remain at Lansdowne House until the middle of May.

The British Standards Institution has recently published B.S.1429: 1947, for annealed steel wire for oil hardened and tempered springs (for general engineering purposes). This Standard provides for a range of qualities of plain carbon steel and two types of alloy steels, silicon manganese and chromium vanadium, as specified in B.S.970, in the form of annealed steel wire for oil hardened and tempered springs for general engineering purposes. For each type, two grades are specified, grade 1–ground, and grade 2–unground. The section on general clauses includes details of manufacture, details of a test on the rod from which the wire is to be produced, methods of test on the wire, and tolerances. For each steel the chemical composition and acceptance tests are specified. Copies of this Standard are available from the British Standards Institution, Sales Department, 24, Victoria Street, London, S.W.1, at 2s. each.

NEW FILMS

At the invitation of the Chairman (Colonel H. C. Smith) and members of the London District Board of the British Gas Council, the Minister of Fuel and Power (Mr. Gaitskell), accompanied by the Parliamentary Secretary (Mr. Robens), was present on Mar. 16 at a preliminary showing of two new films, "East Coast Collier," prepared on behalf of gas undertakings in the London district to emphasize the importance of sea-borne coal, and "Behind the Flame," a story of the activities of the Gas Light and Coke Company. Both films compel and hold interest and are excellent documentaries. Produced by Gaumont British Instructional, Ltd., the film takes the audience through most of the day-to-day activities of the Company— manufacture, distribution, research, sales, installation, accountancy, meter collection—and touches on some of the more interesting or unusual jobs which to the employees are daily routine.

BRIGHTON HOMECRAFT CIRCLE

The Homecraft Circle, a junior branch of the Women's Gas Council, has been formed at Brighton, and was launched at the inaugural meeting on Mar. 2. This Homecraft Circle, which is the first of its kind, has been created to cater especially for business women and the younger housewives, who are usually unable to attend afternoon meetings of the Women's Gas Council.

Plans are in hand for a series of meetings, the subjects for which will cover home management, budgeting, kitchen planning, cookery, beauty culture, local government, &c.

At the inaugural meeting, at which the Homecraft Circle enrolled an encouraging number of members, Mrs. E. Barnard, the Chairman, welcomed Mrs. W. M. Buchanan, Organizing Secretary of the Women's Gas Council, who outlined the work of the Council. The Chairmen of the Brighton and Hove, Shoreham, and Worthing Branches wished the new junior branch every success. Mr. R. Prince, General Manager of the Brighton, Hove, and Worthing Gas Company, also spoke. Miss M. G. Lloyd, Senior Home Service Adviser to the Company, is the Hon. Secretary.

THE GAS BILL IN COMMITTEE STAGE

We continue our outline of the Proceedings during the Committee Stage of the Bill for the Nationalization of the Gas Industry. Previous instalments of our story appeared in the "Journal" of March 10 and March 17.

SECTION (2) of Clause 5 of the Bill is concerned with the constitution of Area Boards. The whole of the debate in Committee on Tuesday of last week was concerned with Clause 5, and the first amendment, which was put down in the name of Mr. Brendan Bracken (C., Bournemouth), was concerned with the appointment of chairmen to these Boards. The Amendment aimed at ensuring that any such chairman should be a person having had experience and appearing to the Minister to have shown capacity in the administration of gas undertakings.

Mr. Boyd-Carpenter (C., Kingston-on-Thames) expressed the opinion that the Minister of Fuel and Power did not realize there was anxiety lest a large number of these key appointments, upon which would rest the success or failure of this experiment of gas nationalization, should not be made from people who did not really know the gas industry. He added that appointments in a similar nationalized industry had been filled largely from outside, and the purpose of the amendment was to signify anxiety that such a course should not be followed in the case of the gas industry.

Sir John Barlow (L., Nat., Eddisbury) stressed that the amendment sought to lay down that chairmen of Area Boards should be recruited within the industry and that to appoint a man from outside as chairman of the Gas Council was quite different from appointing a man from outside as chairman of an Area Board. The chairmen of the Area Boards, he said, would also sit on the Gas Council, and it was difficult to see what would happen if a large number of the chairmen of the Area Boards were men outside the industry lacking any technical experience and yet sitting on the Gas Council.

To this the Minister of Fuel and Power (Mr. Gaitskell) replied that he was convinced that the job of the chairmen of the Area Boards was primarily administrative. They were dealing with large units, and though technical qualifications could be no bar and might well be of assistance, most of the work would be administrative. He continued: "We have no intention—I can give that assurance—of going outside the industry except where we honestly believe that there is no one in the industry as capable of filling this particular job as somebody from outside. In essence, I think it would be agreed that a man in the industry starts with a great initial advantage, but equally we do not want to rule out the possibility of appointing someone from outside. I do not think that this point calls for an amendment."

The Amendment was withdrawn.

We think it would be well at this point if we set out subsection (a) of Section (2) of Clause 5, which reads as follows: "The chairman and not less than five nor more than seven other members shall be appointed by the Minister from among persons appearing to him to be qualified as having had experience of, and shown capacity in, gas supply, local government, industrial, commercial, or financial matters, applied science, administration, or the organization of workers."

The Conservative Member for Harrow W. (Mr. N. Bower) moved that after the word "persons" in the foregoing subsection the words "appearing to him to be qualified as" should be deleted. His contention was that as it stood it seemed to leave too much to the discretion of the Minister inasmuch as he would be called upon to decide not merely whether a person had shown capacity, but also whether he had had experience. The Amendment, he added, was to make clear that the question of whether a person had experience was a matter of fact.

The Parliamentary Secretary to the Ministry of Fuel and Power (Mr. Robens) remarked that it was apparent that one could go on for a long time making a series of interpretations of Clause 5. If the Amendment was accepted, the Minister would have to consider any person without experience. This, in fact, meant that any single individual working in the industry could be considered. There would be no qualification that first of all an individual to be considered must appear to the Minister to be qualified. Surely the Minister must appoint an individual who first of all appeared to be qualified.

The Amendment was withdrawn.

Industrial Relations

At this stage Major A. J. Irvine (L., Edge Hill) moved to insert after the word "workers" in the sub-section which we have quoted above the words "and as possessing attributes which will promote good industrial relations." Major Irvine's argument was that a person appointed by the Minister to an Area Board should in the widest sense be acceptable to the workers in the gas industry. He regarded this as a matter of substance, feeling that insufficient attention was paid to this aspect when appointments were made.

Mr. H. Davies (L., Leek) urged that the Amendment in no way excluded the appointment of specialist administrators, some of whom, for instance, might not have been in the industry but in whom they had complete confidence as administrators. He went on: "I strongly disapprove of a 'closed shop,' so far as administration in any industry is concerned. On the other hand, I believe some kind of qualification and experience is necessary. In the 20th century the only qualification required in the teaching profession to teach in a school in Britain is vaccination."

Mr. Brendan Bracken: "Even that is not required now."

Mr. Davies: "I want to see that the people who come into this industry have passed their matriculation and are quite grown up, as well as being vaccinated."

The argument continued and then Mr. Gaitskell replied. He said that, for his part, he wished to see as members of the Area Boards persons with the attributes which had been mentioned, but what on earth was meant by "attributes which will promote good industrial relations?" He continued: "I suppose we might mean that the man must be broad-minded, that he must be generally progressive in his outlook; but I certainly would not agree if it were suggested that we meant a man who always has to say 'Yes' to the other side of the table. I am sure that my hon. Friend would agree that we do not want that type of man at all. That illustrates the difficulties of giving any kind of precision to such phrases. Also, it would be undesirable were we to single out any particular personal characteristic, and say that that must be a qualification for membership of the Area Board. There are a number of other qualifications, such as experience in various fields; but to pick out a personal characteristic, and to say that the man possessing it would be likely to have "good industrial relations" with the workers, would be rather invidious. After all, other qualities are needed: we need men with clear minds, and men who will be capable of taking courageous decisions. On those grounds it would not be right to accept the Amendment."

The Committee divided, two of the Members saying Yes and 27 of the Members saying No.

Whole-Time Chairmen

The next question dealt with was the power of the Minister to "appoint one of the members of each of the Area Boards to be Deputy Chairman of that Board." Mr. Heathcot Amory (C., Tiverton) moved the insertion after the word "Board" of the following: "The Chairman and the Deputy Chairman of each of the Area Boards and such, if any, of the other members thereof as the Minister may require, shall subject to the provisions of the next following sub-section, be required to render whole-time services to that Board." The intention of this Amendment was clear enough. It was to ensure that the chairman and vice-chairman at least of each Area Board should render full-time service. His view was that some but not all members of the Area Boards should be full-time people. He thought there was room for both. The Boards were obviously important bodies. Supervision of something like 100 undertakings or in Scotland nearly 200 would obviously constitute big business. The areas were large and were not homogeneous. It was important the members of the Boards, and particularly the chairmen and vice-chairmen, should know their areas intimately and their managers and subordinates. He added: "We do not want all members to be full-time people. There has been a tendency in industry in recent years, on the whole a good one, for a greater proportion of boards of directors to be full-time people than used to be the case. On the other hand, it is healthy in most cases that there should be a few outside people on the boards. We agree with what the right hon. Gentleman has said about these being primarily administrative jobs. We want the administrators to be promoted within the industry as far as possible."

Mr. Gaitskell: "This Amendment gives me the opportunity of making a brief statement about the Government's intentions in this matter, and I imagine that that was partly the reason it was put down. Our general attitude to this problem is not dissimilar from that expressed by the hon. Member. It is certainly our view that the chairman and vice-chairman will have to be full-time members. We also think it may well be in the case of the gas Area Boards, in contrast with the electricity administration, that there should be at least one, or perhaps more, additional full-time members. . . . It may be found that in one area it would be more satisfactory to have a bigger proportion of full-time members than in another. There may be cases where the chairman and vice-chairman only, without any other full-time members, would be sufficient, but I think that unlikely. That is broadly our view at the moment. We

shall probably need to make some additional full-time appointments, maybe two further appointments."

The Committee divided. Eleven Members said Yes and 23 Members said No. The Amendment was negatived.

Sub-Section (b) of Section (4) of Clause 5 of the Bill is concerned with the constitution of the Gas Council and reads as follows: "The remaining members shall be the persons for the time being holding the office of chairman of an Area Board." Mr. R. Jennings (C., Hallam) moved to insert after the word "Board" the following: "When making any appointment under this Section, the Minister shall not have regard to whether any person, before the passing of this Act, has or has not opposed or criticized the purposes or provisions of this Act, or any of them." He said that because a man had been employed in private enterprise and had expressed an opinion which might be critical of nationalization it did not follow that he was not competent and honourable, or that his integrity would be affected when the industry was nationalized, or that he would not pull his weight for the industry and use his best endeavours for the good of it.

Mr. Robens assured Mr. Jennings that, in making appointments to Area Boards, the only qualifications would be the ability, experience, and efficiency of the individuals in performing the job and the duties laid down in the Bill. He added: "The British Gas Council—not the Gas Council in the Bill, but the present British Gas Council—voted by a majority against nationalization; but at the same time, when nationalization was an obvious decision, they voted that they would co-operate in making nationalization a success. The very essence of our British democracy has been that we have had, for example, a Civil Service which would serve faithfully Conservative, Liberal, or Labour Governments. It is right that that should be so, for otherwise we could not carry on in a democratic fashion." Mr. Robens ended by giving a categorical assurance that no question of political bias would enter into considerations of any appointments to be made.

On resumption on Thursday, Mr. Gaitskell endorsed the assurance given by Mr. Robens. The amendment was negatived.

An amendment moved by Mr. Robens to enable the deputy chairman of an Area Board to attend and vote at meetings of the Gas Council in the event of illness or absence from Great Britain of the Chairman was agreed to.

Disinterested Members

Sir H. Lucas Tooth (C., Hendon, S.) moved the insertion of a new section (6) to Clause 5 to provide that "before appointing a person to be a member of the Gas Council or an Area Board the Minister shall satisfy himself that that person will have no such financial or other interest as is likely to affect prejudicially the discharge by him of his functions as a member of such body and the Minister shall also satisfy himself from time to time with respect to every member of such body that he has no such interest; and any person who is, or whom the Minister proposes to appoint to be, a member of such body shall, whenever requested by the Minister to do so, furnish to him such information as the Minister considers necessary for the performance by the Minister of his duties under this sub-section." The mover said he could imagine that the Minister might quite easily have in his mind someone obviously suited on general grounds for such an appointment, and it was conceivable that if he were a man of well-known reputation and integrity, the appointment might be made without making specific inquiries from him as to whether he had some conflicting interest.

The gentleman himself, being a person of integrity, might very well accept the office without appreciating that there might be some future conflict which would interfere seriously with him in the course of his duties. So the Amendment imposed on the Minister an obligation to make suitable enquiry as to the possibility of a conflicting interest, but it went a little further in that it required him from time to time to ensure that no such interest had arisen subsequently. It was most desirable that those dealing with matters of substantial policy should be above any possibility of suspicion

Mr. Robens agreed that it was fundamental that there should be no shred of suspicion that anyone responsible for administration in these publicly owned enterprises should be in any way tempted to gain from the position he occupied. On the general sentiments expressed there was no disagreement, but the object might be achieved by regulations. The advantage of regulations as against putting a provision in the Bill was that the former procedure was more flexible, and all those odd points which cropped up from time to time could be met by a fairly quick amendment of the regulations.

The amendment was, by leave, withdrawn.

Colonel Crosthwaite-Eyre moved an amendment to ensure that the salaries paid to a member of an area board or to the chairman and deputy chairman of the Gas Council should be disclosed.

Mr. Robens agreed that it was right that Parliament should know the salaries and expenses paid to these people. Again it was a question of how they should achieve that. The Minister had, as indeed had the Lord President, indicated from time to time to Parliament that a Minister must answer any question in the House about a matter for which he was responsible under an Act. The Minister of Fuel and Power would be responsible, under this Bill, for these appointments and for the salaries. Therefore, he must answer a question in Parliament in relation to these salaries.

Mr. Gaitskell said he was anxious to meet the position on this matter. Their only anxiety about the amendment was whether it was making rather a lot of what, in certain circumstances might be a minor matter, in order to insist on the formal laying of some kind of order before each House of Parliament each time they changed a part-time member of an area board at a salary, say, of £500 a year. He wondered if the Opposition would be satisfied if he agreed to put in a suitable amendment at a later stage covering, say, all the initial appointments, together with any changes in salary subsequently made. He would even be prepared to go further and say that any full-time appointment which might be effected might be subject to the same action.

Mr. Peter Roberts observed that the Minister, when giving an assurance about salaries, did not mention allowances, and he asked him if these two went together. He only wished to be clear that allowances should come into this assurance as well as salaries, because it was very difficult to keep a check, with the rising standard of living, on what these values were. If there was an original report dealing with all salaries and allowances, the annual report might give any differences or alterations that had been made.

Mr. Gaitskell indicated assent.

The amendment was, by leave, withdrawn.

Security of Tenure

Section (7) of Clause 5 provides that the Minister may make regulations with respect, *inter alia*, to the appointment of, and the tenure and vacation of office by, the members of any Area Board and the Gas Council. Sir H. Lucas-Tooth moved the addition of the words "so, however, that no member of an Area Board shall be appointed for less than two or more than five years and that any retiring member shall be eligible for re-appointment." He urged that it was essential that there should be some provision for defining the kind of period which a member of a board should be certain of holding office. The amendment sought to ensure that members of boards should have some definite security of tenure.

Such members would be important people, exercising very great power, and, no doubt, receiving quite adequate salaries and allowances. Even so, they would not be very easy to find. They would necessarily be people who had a considerable standing, either in the gas industry or in some other walk of life—administrative, business, financial, or whatever it might be. If they were to attract the kind of people they wished to see appointed, it would be necessary to give them some definite assurance about the length of time during which they could be sure of holding their job. The Heyworth Report recommended quite specifically: "Each member of an area board should be appointed for an initial period of five years subject to renewal for periods of three years." That went rather further than was suggested in the amendment. He would have no objection to accepting the periods recommended in the Heyworth Report.

Mr. Gaitskell said it would be perfectly possible under a regulation to appoint up to one year only and then to get rid of those appointed at the end of the year. Any Minister who set about his duty in that way, however, would find it difficult to get competent persons to serve on the board. If his duty was to appoint the best persons to the board, and to do everything he could to see that the board was successful, it would be quite foolish for him to attempt to do anything of the kind. Of course, they must give some security. People would not accept the jobs if they did not and, therefore, he did not think there was any need to insist on the amendment. The only difference in putting these matters into regulations, against putting them into legislation, was that it would give the Minister rather greater flexibility.

Sir H. Lucas-Tooth asked if the Minister would say something about the general policy he proposed to pursue with regard to these appointments. Did he intend there should be regular rotation?

Mr. Gaitskell replied that there was a good deal to be said for having continuity. It was not always easy to achieve it, however. One could not just discriminate between people and say, "You can only come for one year, and you for two years or three years," as the case might be. It depended a great deal upon the personalities involved.

The amendment was negatived, and the Clause, as amended, was ordered to stand part of the Bill.

Consultation with Existing Bodies

Clause 6 deals with the definition and variation of areas and provides that "The Minister shall before the vesting date by order define, &c." Mr. H. V. Raikes (C., Liverpool, Wavertree)

moved the insertion after "date" of the words "and after consultation with the British Gas Council and the Association of Gas Corporations." He said the British Gas Council had conducted lately a survey of the industry with a view to its division into regions for nationalization. Its views were put before the Minister, although the actual scheme adopted differed in certain respects from the Gas Council scheme. There was no reason to assume that even the British Gas Council was infallible, but it was important because of its close and practical connexion with the industry and, in another way the Association of Gas Corporations was important. In short, the British Gas Council had great knowledge of the practical conditions in the operation of the large undertaking, while the Association of Gas Corporations was a body whose members had a special knowledge in regard to the integration of the smaller undertakings. Bodies like the Gas Council and the Association of Gas Corporations were also useful for discussions on questions in particular areas, like the availability of coke ovens, and also the rather more tricky subject for the Whitehall pundits, whether particular small undertakings should be merged or whether, where such an undertaking was more economic, even if it was a small one, it was not better to use its own resources, rather than bring gas from a larger and more efficient one at a distance. There were matters which could not be decided at Whitehall. They must be decided after some form of local examination, and if they were wisely decided they would make a considerable difference to the future.

Mr. Robens said there was no good and valid reason why they should select two trade organizations for this purpose. If one agreed that one should be selective and had to say who should be consulted, there were clearly equally valid claims for the Association of Municipal Corporations and the T.U.C. It should be left to the Minister, who was anxious to have the best and most manageable and workable areas, to consult with those bodies which he felt were appropriate.

The amendment was, by leave, withdrawn, and the Committee adjourned.

DR. HAROLD HARTLEY AS GUEST OF HONOUR

DR. HAROLD HARTLEY, President of the Institution of Gas Engineers, was the guest of honour of the Midland Association of Gas Engineers and Managers at a luncheon which preceded the annual meeting of the Association at the Queen's Hotel, Birmingham, on Mar. 18. It was the second year in succession that the Midland Association had enjoyed the distinction of seeing one of its members in the Presidential office, and it was fitting that last year's guest, Mr. G. C. Pearson, should be one of those to speak in support of the toast to his successor.

Mr. **P. Dougall** (Kidderminster), President of the Association, presided over a large attendance of members and visitors, and in proposing the toast of "Our Guest" he said he believed it was unique in the history of the District Associations that one Association should have been honoured by providing the Institution with a President for two years in succession. Feeling that he could not do justice to the toast himself, he was glad to welcome two or three friends who had come to speak about Dr. Hartley, particularly Mr. J. F. Davies, Chairman of Radiation, Ltd.

Mr. **J. F. Davies** said he took it as a great compliment to have been invited to the luncheon, particularly as they had Dr. Hartley with them. In Dr. Hartley the gas industry had a very knowledgable friend, and no one could testify to that fact more than he could, because their friendship extended over more years than either of them would care to recollect. His interest in the gas industry was such that he devoted almost more than the whole of his time to it. It was a healthy sign that someone outside the gas-making side should take such an interest in the industry. He was a great fellow, and in appreciation of all the work and effort he had put forward during the last few years the Board of Radiation, Ltd., had made him Deputy Chairman. He thought the members of the Association would like to know that, because it was a possible forerunner of a higher position.

Old Prejudices Overcome

Mr. **A. W. Smith,** in supporting the toast, said he had known Dr. Hartley for many years, and he would like to pay tribute to the Chairman of Radiation, Ltd., who, he believed, was responsible for bringing Dr. Hartley to Birmingham and placing him in charge of the research and technical work. He felt it was a very healthy thing that the Institution of Gas Engineers had thrown open the gateway to its Presidency in the way it had done. Dr. Hartley was the second from what might be termed the contracting side of the industry to occupy that important office. Sir Frederick West was the first some years ago, and now under Dr. Hartley he felt the Institution would be very well served. His own recollection went back to the time when he started his apprenticeship with a very well-known gas undertaking, and the gas engineers of those days used to snort at the very suggestion of contractors having anything to do with the Institution. Going back many generations he believed there was a cleavage on that subject, leading eventually to the formation of the present Institution. It had taken a long time to wipe out the old tradition of distrust of the contracting element. He appreciated that it was one thing to manufacture gas, and to have the commercial and technical knowledge to run the industry, but without the brains of the contracting side in the designing of plant and apparatus, and the many technical improvements that had taken place, the gas industry would be in a poor position, and it was a credit to the Institution that it had got away from the old parochial idea and had thrown open the Presidency to the contractors in the way it had done. They had in Dr. Hartley a man of high scientific attainment and a man with a keen sense of humour; a man who had made his mark in the councils of the Institution. He was delighted to pay his tribute to their guest and to wish him long life, improved health, and happiness in his career in the future.

Mr. **G. C. Pearson,** Birmingham (Immediate Past-President of the Institution of Gas Engineers), said Dr. Hartley was not only a popular President, but a very efficient one, and they required a man of that calibre to-day. They were all specialists in the gas industry; none of them knew everything about the industry, and it was useful to have such a specialist as Dr. Hartley in the chair. They each tried to bring to bear during their year of office the special work in which they were engaged, and he was sure that Dr. Hartley had much that was of interest to bring before the Institution. His programme, he knew, was very well balanced, and it would be very enjoyable. He was sure he would enhance the reputation of the Institution in every way.

Personal Reminiscences

Mr. **T. F. E. Rhead** also supported the toast and recalled many of Dr. Hartley's personal reminiscences from his Manchester University days down to the establishment of the Radiation research laboratories in Birmingham. Following his exciting experiences at Manchester he went to Leeds where, in the early days of the Livesey Professorship, he was Gas Research Fellow, at the same time as Dr. E. W. Smith (now Sir Ernest Smtih) was Research Chemist to the Institution Gas Heating Research Committee. In the course of time Dr. Hartley went to Radiation, Ltd., and organized their research laboratories, and later became Director of Research. His work on comfort research, the effect of radiation on the skin, and so forth, was well known, and his paper on the turning of the potential energy of coal gas into radiant heat was extremely valuable. During the war the Radiation laboratories were brought to Birmingham, and a very large number of gas engineers had appreciated the help they had received from the laboratories on problems of coke combustion and other questions. They all knew him as a very friendly and courteous man, but he did not suffer fools gladly, and it was much better to be his friend than otherwise. He was still very young in spirit, and they had done themselves a great honour in appointing him as President of the Institution.

Dr. Hartley's Reply

Dr. **Hartley,** responding to the toast, said he was greatly indebted to all who had spoken; they had obviously decided to talk in superlatives and they had carried out their resolve. He was especially grateful to Mr. Davies for his references to their 30 years' association. Such success as their organization had attained was due in no small measure to Mr. Davies's personal efforts. His longest association with Mr. A. W. Smith had been as a fellow member of Sir David Milne-Watson's Post-War Planning Committee. No member of that Committee had expressed himself more incisively than Mr. Smith. He appreciated, too, the tribute of Mr. Pearson. He had not been an easy man to follow as President of the Institution. His was not a spectacular Presidency. They did not look upon him as a spectacular man, but he was a very sound man and a very good and kindly man, and he greatly valued his friendship. Mr. Rhead was another very old friend whose remarks he had greatly appreciated. He was having a very interesting year as President, and, as Mr. Botley had said in a recent letter, he would look back on his connexion with the Institution not only for the good it had done him, but because of the fine fellows he had met and the fine friendships he had formed.

The Grey (Discussion) Edition of Institution of Gas Engineers Communication No. 312/133 (Restoration and Control of the Gas Industry in the British Zone of Germany, 1945-1947) is now available from the Institution, price 2s. 6d. per copy (post free).

INDUCTION OF NEW MIDLAND PRESIDENT

THE Annual General Meeting of the Midland Association of Gas Engineers and Managers was held at the Queen's Hotel, Birmingham, on Mar. 18. Mr. P. Dougall (Kidderminster), the retiring President, occupied the chair prior to the instalation of his successor, Mr. S. J. D. Williams, Engineer and Manager of the Stourbridge Corporation Gas Department, and extended a warm welcome to the visitors, and particularly to Mr. H. J. Escreet, President of the Southern Association of Gas Engineers and Managers, and Dr. W. K. T. Braunholtz, Secretary of the Institution of Gas Engineers.

The annual report and accounts were adopted, and the following elections were confirmed: *Vice-President,* Mr. S. J. Sadler (Solihull); *Hon. Secretary and Treasurer,* Mr. J. H. Wainwright (Halesowen), with thanks for past services; *Members of Committee,* Mr. S. K. Hawthorn (to serve for two years), Mr. J. S. Bird, Mr. W. E. Plevin, and Mr. J. E. Wakeford (to serve for three years); *Auditors,* Mr. A. W. Elliott and Mr. C. R. Ingham; *District Member of Council of Institution of Gas Engineers,* Mr. P. Dougall; *Representatives on Midland District Education Committee,* Messrs. C. F. W. Rendle, H. R. Hems, and S. K. Hawthorn, with the addition of Mr. F. H. Bate in place of Mr. G. C. Pearson, to whom thanks were accorded for his services on the Committee for many years past.

The **President** announced that the Committee recommended the members to honour Mr. W. S. Morland, who had been a member since 1902 and was President in 1913, by conferring on him the distinction of Honorary Membership. The recommendation was warmly confirmed.

The **President** also offered hearty congratulations to Mr. W. G. S. Cranmer on having attained the 50th anniversary of his election as a member of the Association. He had served on the Committee for a number of years, was Secretary from 1914 to 1920, and was President in 1928.

Mr. **Cranmer** acknowledged the compliment and said he hoped to be spared for many more years.

The meeting unanimously confirmed the election of two new members, Mr. George Helps, Junr., of Nuneaton, and Mr. A. E. West, Deputy Engineer and Manager of the Coventry Gas Department.

The Benevolent Fund

The **President** proposed that the Association's donation to the Benevolent Fund of the Institution of Gas Engineers should again be 100 guineas to mark the Presidency of Dr. Harold Hartley. A similar decision was reached last year, when Mr. G. C. Pearson was President of the Institution.

Mr. **C. F. W. Rendle,** District Representative of the Fund, expressed hearty appreciation of the Association's continued generosity.

Dr. **W. T. K. Braunholtz,** as Secretary of the Fund, said the Association's support was greatly appreciated at headquarters. With the rise in the cost of living they still needed more money for the Fund; at present they were unable to pay out as much money as they would wish.

Mr. **C. M. D. Belton** (Shrewsbury), reporting on the Midland Commercial Gas Association, said that as members would have noted from the minutes that Association was now in the limbo of the lost. It had, however, had a useful existence, and it had managed to accumulate a little balance on the right side. It had served a useful purpose for the past 30 or 35 years, and during that time it had only two secretaries, Mr. Ramsden and latterly Mr. George Williams, of Wolverhampton. The Committee of the Commercial Association had decided that they should present Mr. Williams with a token of their gratitude for his services, and that the balance should be presented to the Benevolent Fund of the Institution. By reason of the introduction of so many other activities the Commercial Association had become redundant, but the members were glad that Mr. Williams was by no means redundant, and on their behalf he presented him with a radio set as a mark of their appreciation.

Mr. Williams suitably acknowledged the presentation, and remarked that, with nationalization in prospect, they had advanced the obsequies of the Commercial Association by no more than about a year.

Mr. **Rendle** also returned thanks for the additional support for the Benevolent Fund as represented by the remaining balance of the Commercial Association.

Work of the Education Committee

Mr. **E. T. Pickering,** in the absence of Mr. H. R. Hems, reported on the work of the Midland District Education Committee, and said the year had been marked by the virtual completion of the Institution's very comprehensive schemes for the education, training, and examination of students from all sections of the industry. The head of the Birmingham Technical College had readily agreed to provide facilities for training in the technological course and the salesmen's course provided the students were forthcoming. The Committee circularized 50 undertakings in the area, but outside Birmingham they received only nine replies, and only four names were sent in. In Birmingham itself for the technological course in manufacture there were 30 students, and for supply there were 12. Dealing with the intensive courses, the Institution had provided courses for well over 200 students, and the courses had been marked with success. About 80 of the candidates had been successful at the first attempt in passing the examination.

He felt he must comment on the poor examination results in the part-time courses; they could not regard 60% passes as satisfactory. The shortcoming might be due to the administration of the scheme, or it might be due to the low educational standard of the students coming forward. The members of the Association might help considerably in encouraging the right type of students to come forward.

The New President

Mr. **Dougall** then formally inducted Mr. S. J. D. Williams as President and invested him with the Presidential jewel.

Mr. **Williams,** returning thanks for his election, regretted that it was not possible to decorate his predecessor with the Past President's medal; nevertheless he thanked him for all the work he had done during his year of office, and especially for the success that attended the spring visit to the Kidderminster works.

The **President** then delivered his Presidential Address (which will be published in a later issue of the "JOURNAL").

A hearty vote of thanks was accorded to Mr. Williams for his address on the proposition of Mr. **Rendle,** seconded by Mr. **A. B. Britton** (Hinckley), and supported by Mr. **W. G. S. Cranmer.**

The **President** announced that it was the desire of the Chairman of the Stourbridge Gas Committee that the members of the Association should visit Stourbridge for their spring meeting, the suggested date being June 3.

THE SOLID SMOKELESS FUELS FEDERATION

THE Executive Committee of the Solid Smokeless Fuels Federation, representing the National Federation of Gas Coke Associations, the British Coking Industry Association, and the South Wales Anthracite and Dry Coal Committee, has issued its second annual report covering the year 1947. The Federation was formed by the three main solid smokeless fuel industries, namely, gas coke, hard coke, anthracite and Welsh dry steam coals, and its objects are to promote the development of the use of solid smokeless fuels and to encourage satisfactory relations with all kindred interests for the purpose of furthering the objects of the Federation.

The vesting of the National Coal Board on Jan. 1, 1947, necessitated changes in the membership of the British Coking Industry Association because as from that date it represented on the one hand the coke ovens which had been vested in the National Coal Board, and it continued to represent the non-vested plants. As from the same date the National Coal Board became members of the Federation by virtue of having taken over the anthracite and Welsh dry steam products.

This brought changes in the personnel of committees, and particular mention is made of the following resignations: Mr. G. E. Aeron-Thomas was Chairman of the Federation for its first year but he had also worked towards its formation for some years previously. Mr. A. S. Weston, a member of the Secretariat, had been associated with the developments for a similar length of time and had done excellent work, particularly as Chairman of the Exhibition Sub-Committee. Mr. P. E. Holden, a member of the Executive Committee, had been associated with the Federation from the commencement and had acted as its honorary auditor. Mr. E. B. Johnson had been a member of the Technical Committee since its inception and had given special services in connexion with the several technical activities. Mr. W. L. Boon, who had been connected with the Federation throughout, and Chairman of the Technical Committee since its formation in 1940, resigned to take up other work. These vacancies have been filled by the National Coal Board, South Western Division, by Mr. H. Lyn Jones, acting as Chairman on the Committee for that Division, and Mr. T. E. Lloyd; and Mr. E. J. David for the Secretariat. Mr. E. Brooks is the new member for the Technical Committee.

Colonel H. C. Smith, Chairman of the National Federation of Gas Coke Associations, has been Chairman of the Federation

for the year under review, and Mr. W. K. Hutchison has been Chairman of the Technical Committee. The Federation's work has concerned two particular spheres, namely, the publicizing of solid smokeless fuels through exhibitions and literature, and the unification of marketing methods.

The Federation had a stand at the Ideal Home Exhibition at Olympia in 1947, and at the Building Trades Exhibition, also at Olympia, in November/December. These two media were, of course, quite different. The first had to appeal to the casual consumers who were visiting an exhibition with a variety of interests so that the story had to be short and concise. The Building Trades Exhibition had to appeal to representatives of housing authorities and to the builders.

The Federation has now had experience in three types of exhibitions. "The Good Heating for Every Home" Exhibition at the Horticultural Hall in March, 1946, was run exclusively by the Federation and it was possible to show there a full range of appliances and to illustrate adequately their performance in different circumstances. The other two exhibitions held during 1947 were, as indicated, dissimilar in character. The Executive and Technical Committees are now considering the results of these three efforts in order to decide future exhibition policy.

Government Departments and local authorities are responsible for the bulk of the housing schemes. It is gratifying to note that the recommendations of the Domestic Fuel Policy Report (the Simon Report) have been officially adopted by the Government as a long term policy and that a large proportion of the new houses are being fitted with solid smokeless fuel appliances. In turn, this puts an onus on the members of the Federation to provide at the earliest possible moment increasing tonnages of fuels suitable for use in these appliances. The Technical Committee is actively pursuing this and expects to be ready with recommendations at an early date.

Having regard to the importance of the Simon Report a brochure entitled, "The Domestic Fuel Policy—How the recommendations of the Fuel and Power Advisory Council of the Ministry of Fuel and Power can be met with solid smokeless fuels" has been issued by the Federation. This gives in a convenient form the salient points of the Simon Report on one side of each page and on the opposite side illustrates how solid smokeless fuels can carry out the recommendations. Ten thousand copies of the brochure have been circulated to named personnel concerned with housing and the brochure has been used at the Ideal Home and Building Trades Exhibitions.

Another brochure, entitled "Solid Smokeless Fuels Federation," was prepared particularly for use at the Building Trades Exhibition. That describes the production and preparation of the fuels and their advantages, and the free technical advice concerning the use of the fuels and the appliances which is one of the features of this Federation. In addition to these two brochures, which have been issued during the year, the Federation has still the following current brochures available: "Good Heating for Every Home," "Methods of Correct Installation and Elimination of Erection Faults," and "Producer Gas Plant for Industrial Purposes."

Important work in connexion with the unification of methods of marketing was started during the latter part of the year only and is still proceeding. A Price Structure Committee has been formed, fully representative of the three industries with the following terms of reference:

(*a*) To consider the relative value to the consumer of the various solid smokeless fuels based on the calorific value, working efficiency and the convenience factor; (*b*) to explore the development of a national price structure for solid smokeless fuels on the following basis: (i) Zoned prices for all the solid smokeless fuels preferably on a county basis or, if not, with as little sub-division as practicable following local authority areas; (ii) fixed prices to be observed by all producers and distributors for all the fuels both f.o.r. at destination station and delivered to consumers' premises.

The Joint Investigations Committee, which is a fact-finding committee made up of representatives of the Federation and the Coal Utilization Joint Council, has been actively engaged with particular reference to "district heating." Its investigations have covered a wide field and a report will be issued shortly which will give some interesting information on the possibilities as well as the limitations of this subject. The Federation continues to maintain contact with Government Departments on all matters affecting its interests. During the year it has been represented on a Working Committee set up by the Ministry of Fuel and Power's Fuel Efficiency Branch which is considering the provision of solid smokeless fuels called for in the Simon Report.

A cursory review of the year's working would seem to indicate that considerable progress has been made on fundamental matters during the Federation's life of two years. There is good evidence that solid smokeless fuel appliances will be installed in ever increasing numbers. That provides scope for improved production, with particular reference to quality and size, and the development of more efficient apparatus. On the other hand, the increasing cost of these fuels makes it necessary for the Federation to continue its educational work in bringing to the notice of the public the scientific use of these fuels and to establish, in conjunction with the distributors, an improved consumer service.

PARLIAMENTARY NOTES

by "Abaris"

A MEMBER asked the Minister of Fuel and Power if he intended to increase the domestic coal ration, or substantially to increase the export target now that stock piles appeared adequate. Another Member asked if merchants' yards held stocks in excess of sales, and whether the Minister could make arrangements for future disposals.

Mr. Gaitskell pointed out that the favourable stock position would enable this country to push ahead with its export programme. Stocks were 14½ million tons and would probably be 12 million tons at the end of this winter, which should enable the authorities to provide more coal for export in the summer months. We had already been committed in various ways to a total of nearly 12 million tons for export and bunkers during 1948, and a further 3 to 4 million tons had been earmarked for further trade agreements. Owing, he said, to the urgent need to export as much coal as possible, an increased allocation for domestic consumers was not practicable at present; but, in view of the low level of deliveries to some consumers earlier in the coal year, he proposed to permit those who had not obtained their full permitted quantities in the earlier periods of the year to acquire the balance by the end of April. This statement was followed up by another questioner who wanted to know if there was a shortage of cleaning and washing machinery which affected our coal in competitive markets abroad. Mr. Gaitskell said that there was a serious shortage of such machinery.

A Scottish Member asked what coal measures were disclosed by the oil-boring operations at D'Arcy, Midlothian, and Mr. Gaitskell told the House that a number of thin seams had been revealed none of which exceeded one foot in thickness. The Minister added that he could not say what oil had been found without notice of the question.

A Conservative Member asked the Minister how many copies of a poster entitled "Half a fire keeps me warm" were issued, and what the cost was. The answer was 50,000, and the cost £195. Colonel Crosthwaite-Eyre: "Has the Minister looked at this poster of this summer-clad belle, with her sleeves rolled up and wearing no stockings? . . . . Does he realise that this type of poster makes nonsense of the fuel saving campaign?"

Mr. Gaitskell: "I do not agree. I thought it was an attractive poster and would no doubt serve to discourage a number of persons from using electricity at peak hours."

The Member for Kingston asked the Minister what action he was taking to secure a reduction in the price of coal, and the reply was that one of the main objectives of setting up the National Coal Board was to keep the price as low as practicable consistent with preserving a proper standard of living for the mineworkers, and attracting labour, &c. There was a slight exchange here, and another Conservative Member asked the Minister if he was aware that in his reply he did not refer to safeguarding the interests of the consumer; and would he take steps to see that when coal is sold to the domestic user the prices are not charged for the dirt that went with it. Mr. Gaitskell said that he would have thought that to have the price of coal as low as practicable was certainly in the interests of the consumer.

On the same day, the Member for Louth asked what was the average calorific value of coal supplied to electricity and gas undertakings in 1935 and 1947, and what was the average cost per ton in the same years. This elicited the information that the calorific value per pound had fallen from 11,300 B.Th.U. to 10,934 B.Th.U. in electricity generation only. The Minister was unable to give the corresponding figures for gas. Prices were 14s. 2d. against 43s. 2d. a ton. Mr. Gaitskell said that he could not agree when the same Member asked him if he was aware that at some electricity generating stations about 30% more coal was required to produce the same amount of electricity as was produced before the war. He added that it was a fact that some stations were more efficient than others.

The subject of compensation for redundant members of staffs of colliery companies was raised when a Member asked if the Minister of Fuel and Power had yet approved the general scheme. The Minister informed him that he was still waiting for the National Coal Board to submit the scheme for his approval. The Member asked the Minister to expedite the matter because a great many individuals had been living in a state of uncertainty, but all Mr. Gaitskell would say was that it was reasonable to give the Coal Board time in which to deal with this important subject.

GAS IN FRANCE—AND GERMANY

OUR French colleagues, like ourselves, have been going through the trying experience of substituting oil for coal and now returning to coal and in some cases to the supply of coal gas in places where solid fuel has hitherto been used and in preference to liquid fuel. Only a few months ago the authorities were exhorting industrial consumers, bakers for example, to use fuel oil instead of gas in view of the shortage of coal. Not without reluctance steps were taken to make the necessary transformations of equipment. Then a few weeks ago there was a sensible restriction in oil supplies. It has, therefore, been decided to stop in April, save in exceptional cases, authorizations of new equipment for the consumption of fuel oil. The new situation presents itself to the gas industry under the double aspect of an increase in its allocation of coal and in an increased demand for industrial gas. The Direction de l'Exploitation de Gaz de France has recently asked the works to study urgently the problems arising out of this position, taking into account, on the one hand, the eventual increase of calorific value to 4,200 calories (440 B.Th.U./cu.ft.) and on the other the maintenance at the disposal of the industry of a contingency supply of petroleum oils and perhaps for some works of small tonnages of gas oil.

The *Journal des Usines à Gaz* (February) in noting this, calls attention to the similarity of the situation with that in Great Britain. In a report to the Association Technique by M. Robert Delsol, trials and experiments at several works are mentioned. These trials are still incomplete but it is anticipated that conclusions will shortly be published about the conditions in which gas oil can be replaced by heavier products, for the carburetting of water gas, for the manufacture of oil gas, and perhaps as an auxiliary means of heating retort settings.

With the exception of an article describing the coal and coke-handling equipment of an installation at Fribourg-en-Brisgau, most of the rest of the French Journal is occupied by a lengthy abstract of the Gas Bill and by several abstracts from the English Gas Press.

The Gas-Works at Fribourg

Built in 1936 with a daily capacity of 45,000 cu.m. (1,589,000 cu.ft.) the works at Fribourg, in the Province of Baden in the French-occupied zone of Germany, was laid out for an ultimate capacity of 200,000 cu.m. (7 million cu.ft.) per day. The carbonizing plant consists at present of six settings each of five vertical chambers. It is, however, the coal and coke handling plant which has excited the interest of our contemporary. It is an extreme example of bulk handling as opposed to continuous handling; skips, wagons, and cranes instead of conveyors and elevators. Coal sidings fan out in sidings where cranes unload the wagons and either stock the coal on the ground or feed it to underground hoppers feeding a line of automatic skip-hoists in two units. The first unit elevates the coal into the top of a tower containing breaking and mixing plant. In the latter four varieties of coal each contained in a 30 tonne intermediate storage hopper can be accurately mixed in controlled proportions. At the base of the tower the mixture of broken coal is received in a measuring chamber equal in volume to the skip of the second unit, by which it is elevated to the storage bunkers at the end of the carbonizing plant. Coke for heating and breeze for retort pads are raised in another skip-hoist at the same point.

Coke is received from the retorts in a wagon drawn by an accumulator-steam locomotive, passing first through the quenching tower and then to a hoist, the skip of which has exactly the same capacity as the coke wagons, discharging the contents into hoppers above the screening plant. The skip contains about 2 tons of coke, but an ingenious arrangement of progressive stops enables the discharge to be made each on the top of the previous one with a minimum of fall or breakage. Screening is effected in a series of roller screens in which the size over 90 mm. is first scalped off. There is a breaker which does not appear to have been used. Through 90 mm. is graded into five sizes including breeze through 10 mm. The screenings are received in a car with compartments corresponding to the outlet chutes of the screens. The car is then travelled along to discharge its classified contents into the appropriate hoppers or to yard store. This car is electrically driven and controlled and there is an ingenious device by which its speed is trebled over the yard store. All hopper outlets are provided with dedusting and semi-automatic weighing and bagging apparatus. It is also possible to stock on the yard coke coming straight from the retorts. The skip-hoist has an intermediate stop by which means coke is discharged into another car for transport direct to the coke yard.

G. W. F. describes another German installation—that at Kiel—which includes some interesting features. Replacing older plant the first battery of 15 ovens was built by the end of 1941 and the second of the same size came into operation in 1944. Each oven is 350mm. wide by 4 m. high by 8.9 m. long with a capacity of 9.2 tonnes of coal. The reduction from 450 to 350 mm. in the width of the oven had reduced the carbonizing time (without steaming) from 24 to 12 hours. The gas was required to have a calorific value of 4,200 calories (440 B.Th.U./c.ft.) and it was decided to reduce to this figure by water gas generated in the ovens rather than in a separate plant. Steam is fed along two channels in the bottom side of the sole blocks of the oven and it rises at nine points in ports made in the first three courses of the side blocks with ports at two levels, 190 and 340 mm. above the (inside) sole level.

The coke from groups of three ovens is pushed into a chamber with an inclined base, and with the inlet and outlet openings closed by gas-tight doors. Inert gas is circulated through the hot coke and through a tubular boiler in which the heat is utilized for the generation of steam. The battery is designed for compound heating.

Reverting to the French Journal we find news of a system of space heating described as "gas heating by 'air pulse'". M. Richalet, of the Versailles Gas Works, has put in 45 considerable installations of this type. He points out that public appartments, intermittently occupied, lend themselves particularly to this technique. Automatic regulation can not only assure the maintenance of the temperature of the apartment at the selected figure but can effect the starting and stopping of the apparatus in terms of the time of day and of the external temperature. Only methods of air-heating, particularly of this pulsating kind, can ensure the renewal of atmosphere which is essential to create that impression of "well-being" which has become a necessity of our modern life.

The Union of the Scientific and Industrial Associations of France, which has just been set up to group together all the big French Associations, held its first meetings on Jan. 16 and 23 last. The President of the new Union is M. Jacques Fougerolle, President of the Ste. of Civil Engineers of France, and M. Biard, Vice-President of the Association Technique de l'Industrie du Gaz en France, has been appointed Secretary.

Coal in 1948

It is estimated that French mines will produce 54 million tonnes this year and that imports may reach 23 millions, making 77 millions available for use in case of need, against an estimated consumption of 74 million tonnes. Qualitatively, however, the supply is out of balance. France has available an excess of rich coals with a deficiency of lean coals, particularly of those qualities required for electricity stations and the domestic stove. A big demand for metallurgical coke is foreseen, so that all this coke will go to the furnaces without breaking. There will thus be a deficiency in small coke for industry and the domestic market. It is therefore expected that there will be a substantial increase in the weight of the richer coals allocated to the gas-works to increase the quantity of small coke to meet the demand.

COPPER IN HOUSING

A new exhibit, illustrating the uses of copper in building, has been installed at the Building Centre, 9, Conduit Street, London, W.1, by the Copper Development Association. Contained in a case designed by Mr. John Grey, F.R.I.B.A., A.A.Dip., N.R.D., the exhibit is of special interest to all concerned with housing, constituting as it does a display of applications of copper and copper alloys in building. The exhibit is divided into three sections, dealing respectively with tubes and fittings, architectural metalwork, and sheet and strip.

The soil, waste, water, and gas pipes and fittings displayed or illustrated include traps, capillary and compression joints, bronze welded and autogenously welded joints and a panel heating system. Architectural metalwork displayed comprises architectural sections, wire mesh and door furniture. In particular, a fine balustrade at the R.I.B.A. building is illustrated. Copper rainwater goods are also shown, including guttering in ogee, rectangular and other shapes. In the panel showing applications of strip and sheet, copper flashings, roofing work, and damp proof course are illustrated.

The Annual Meeting of the Institution of Chemical Engineers will be held at the Connaught Rooms on Friday, April 16, at 11.45 a.m., under the Presidency of Mr. H. W. Cremer. There will be luncheon at 1 p.m., when the guest of honour will be Sir Edward Appleton, G.B.E., K.C.B., F.R.S. Afterwards Mr. Cremer will give his address, "The Chemical Engineer and Civilization."

MATERIAL HANDLING ON A PROVINCIAL WORKS

Discussion on Mr. J. D. C. Woodall's Paper

FOLLOWING is a report of the discussion on the paper on "Material Handling on a Provincial Gas-Works," which Mr. J. D. C. Woodall, B.A. (Camb.), Engineer and Manager of the Maidstone Gas Company, presented at a meeting of the Southern Association of Gas Engineers and Managers (Eastern District) at Gas Industry House on Feb.,24. The paper was published in the "JOURNAL" of Mar. 17 (pp. 573-579).

The **Chairman** (Mr. H. J. Escreet) said he felt there must have been much wasted sympathy with Maidstone when the Company was running out of coal last winter; as a matter of fact it appeared that Mr. Woodall was just waiting for the last bit to go in order that he could start on his reconstruction work. He did not think many undertakings had been so fortunately placed. He was interested to note that the author had suggested that Dr. Hollings might encourage his research workers to do something on liquid purification processes. He did not know whether anything was being done in that regard, but it was not without interest that at a meeting of the Eastern District to be held on Mar. 30, Mr. G. U. Hopton, of the Fulham Laboratories of the Gas Light and Coke Company, was to read a paper on "The Removal of Hydrogen Sulphide from Coal Gas."

Capital and Manpower

Mr. **W. A. Howie** (formerly of Maidstone) said it was not for him to enter into lengthy discussion on the paper but it was his pleasure to congratulate Mr. Woodall on preparing and presenting a very practical and sensible paper concerned with a provincial gas-works. He noticed that in dealing with machinery and labour the author had quoted Alwyne Meade as having said in 1934 that the saving of one man justified a capital expenditure of from £1,000 to £1,200, and Mr. Woodall himself had suggested that this figure should be at least £2,000 by reason of the increase in wages since that time. He would go further than that, because they had not only to consider the increase in wages but also the increase in the cost of materials and railway rates. Working out an average figure for a particular contract he would raise the figure to £3,700. That figure was possibly borne out by the fact that at Maidstone they had spent roughly £90,000 in order to dispose of 24 men; £90,000 divided by 24 gave approximately £3,700. Any expenditure of that order for the introduction of mechanical plant to do away with dirty work on the gas-works was in his view justified. Mr. Woodall had described the Gibbons machine, which was one of the latest, and he agreed with all the points he had mentioned about it. As the Chairman had observed, Mr. Woodall was fortunate in finding his coal stocks reduced just at the time when he wanted to carry out the reconstruction. He knew the difficulties encountered in that coal store because of the floor being two or three ft. below ground level. It behoved them to look into the question of material handling in their works because he felt that even now, and more so in the future, it was going to be very difficult to obtain labour to perform many of the operations met with in a gas-works on account of dirtiness and fumes. He thanked Mr. Woodall very cordially for his kind references to himself.

Raising the Workers' Status

Mr. **H. M. Lawrence** (Gas Light and Coke Company) congratulated Mr. Woodall on his interesting, lucid, and enthusiastic paper. As an unashamed advocate of complete mechanization for handling materials he shared his enthusiasm for raising the status of the labourer from that of a donkey into that of a craftsman, such as his crane driver, who not only took a pride and interest in his work but looked after his machine as if it were his own property. He (Mr. Lawrence) had men of his own of that type, who spent their own money on polishing materials to keep their vehicles in good trim. He had even known one of them come back early from his holiday because he could not bear the idea of a relief man having to drive his machine. It was on such men that the Company could rely for intelligent work.

During the six years of war he was fortunate enough to be concerned with the Canadians and Americans in the development of some and the operation of all of those curious implements which were used in the construction of aerodromes, pipelines, Mulberry harbours, landing beaches, and even the production of open-cast coal. He was convinced that a large number of such machines were of the greatest interest to gas engineers for meeting the problems of handling coal and other materials on the works. Mr. Woodall had said that an expenditure of £2,000 was justified to save one man's labour, but he could think of at least half a dozen of these machines which cost less than £1,000 and saved not one man's labour but dozens and did other jobs besides which were otherwise impossible. The author had emphasized the valuable work which had been done by dumpers on the works. He entirely agreed with him, since he was one of the first operators of the original Muir-Hill dumper over 15 years ago. He now operated a dozen or so, of which five were of the latest Muir-Hill type B.10 with reversible steering.

There were occasions when it was preferable to operate the tractor part of the outfit apart from the load carrying. Had members, he wondered, ever given their minds to the utilization of a train of Dobbin trucks on pneumatic tyres, which could be planted at various points on the works and picked up for discharge once or twice per day by a tractor such as a Fordson, David Brown, or Ferguson. If engineers could not await delivery of a unit like that, or imagined they would strain their budgets too far, he would say that in all the Ministry of Supply dumps in the country, and at every vehicle sale, there were dozens of aerodrome and ordnance factory tractors, such as Clark Truck tractors, together with a train of bomb trolleys, which could easily be converted to that purpose. These were generally fitted with Warkesha, Hercules, or Chrysler engines, and to those who might be anxious about spares he would say that they could get half a dozen of them at the same price as one new tractor and thus keep going for years, or at least until their usefulness had been proved.

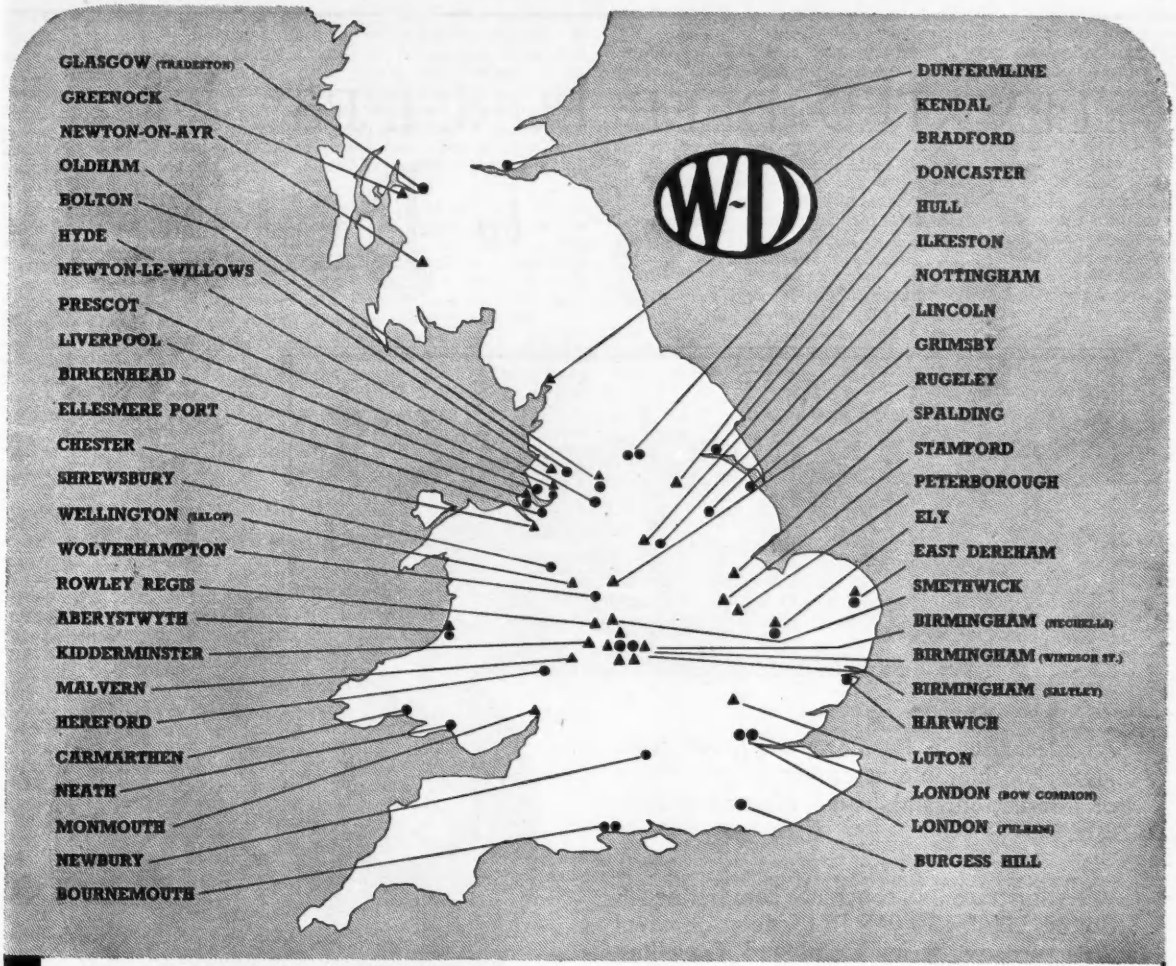
Virtues of the Bulldozer

Coming to his "great love," the bulldozer, of which he had 13 at work, he believed that among its other virtues it contained the answer to Mr. Woodall's oxide problems. The most useful medium sized machine was the D.4, which weighed 10,030 lb., with a drawbar of 35.68 h.p. The travelling speeds were: first gear, 1.7 miles per hour; second gear, 2.4 m.p.h.; third gear, 3.0 m.p.h.; fourth gear, 3.7 m.p.h.; and fifth gear, 5.4 m.p.h.; reverse, 1.9 m.p.h.; giving a maximum drawbar pull of about 8,000 lb. The basis of the machine was a very solid reliable diesel engine mounted on caterpillar tracks which enabled it to climb gradients up to about 1 in 5, and cover soft ground and mud to about 2 to 3 ft. deep if necessary. The fuel consumption was about a gallon per hour. Incorporated with the mobile power plant was a hydraulic pump for the operation of tools or for a winch and to that gear were attachable a variety of easily dismountable and strangely made tools. The bulldozer blade in front, actuated by hydraulic cylinders, was attachable at a variety of different angles for crushing and stacking oxide and trimming and stacking coal, coke, and breeze, operating up to a height of, say, 20 ft., and for an economic distance of, say, 30 yards. If it was desired to transport material for a longer distance, the bulldozer could pull behind it a scraper on pneumatic tyres actuated by a winch which could lift, carry, and put down, either in one lump or spread out up to a distance of about 350 yards It could pull behind it a plough and in one operation it would dig a trench about 18 in., and on the side could be mounted a boom worked by the winch for pipe-laying in that trench. A jib could be mounted in front of the tractor to give a mobile 2-3 ton crane.

For preparing stocking ground it could pull behind it a ripper for making the surface ready for the bulldozer and scraper, and the ground afterwards could be consolidated by plain roller, Cambridge roller, or Sheepsfoot roller. For loading vehicles or for transporting up to about 20 yards the dozer blade could be taken off, and one could fit either a forward discharging unit, such as a traxcavator unit, or a backward loading unit such as a mobiloader. Each of these units in favourable circumstances would dig and load any kind of material twice as fast as most ordinary gas-works excavators. These were not all the things that could be attached to such a tractor. For instance, the Coletrack, which was a machine of about the same size, had mounted on it as well as the winch a 6 kW generator and welding unit and a 1-2 gun compressor. Such machines were considered somewhat expensive, but in his view they were well worth their purchase.

Simpler and Cheaper Machines

Simpler and cheaper type machines for only one or two operations included the Clarkair bulldozer, weighing about 30 cwt., with 4 ft. 6 in. blade; the Bristol bulldozer with Austin 10 h.p. engine, weighing about 23 cwt. and fitted with manually operated blade; the Aveling Barford calfdozer, with 8 h.p. petrol engine, weighing about 29 cwt. with manually operated blade, and last but not least the Muledozer attachment which could be fitted to the Fordson "Major" tractor. If Mr. Woodall was worried about oxide he suggested that he should consider some of the machines he had mentioned. One could crush oxide with the tracks and trim it and turn it with the blade, and



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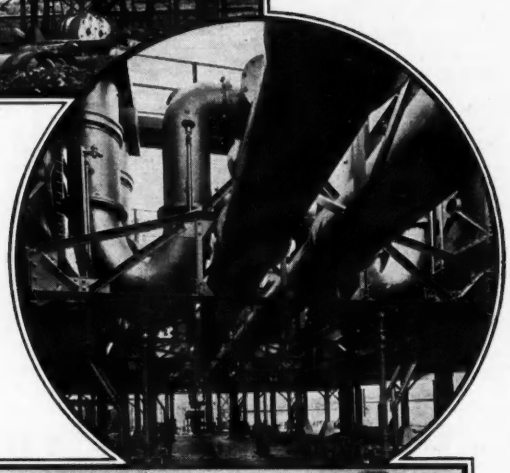

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afterwards trim it back to the boxes if required. The bulldozers under his care were doing all these operations with success. If more disintegration was required, then he suggested using one of the rollers behind the dozer, or a suitable attachment on the front of the bulldozer blade. If one wanted to drive a separate disintegrator, a power take-off could be arranged from the main power plant. The permutations and combinations of these machines were endless, and he suggested that they went a long way to make up for the lack of miscellaneous labourers to which Mr. Woodall had referred.

There were two ways of handling oxide which he had had in mind for some time, which derived from some plant in the cement industry, with which he had had a great deal to do. The cement industry actually pumped their cement along pipes with a pump known as the Fuller-Kenyon, which aerated the dry cement and discharged at almost any distance, but he was rather doubtful about that with oxide. On the other hand there was a conveyor known as the Redler, which was small in section, easily driven, and could be made to go round corners and discharge its material at any convenient point. The principle was that it did not carry the material, but caused it to flow in a solid column through a container tube. It had occurred to him before that a series of these pipes laid overhead over the boxes could be made to discharge crushed oxide at any convenient point as required.

A Realistic Approach

Mr. **F. M. Birks** (Deputy Governor, Gas Light and Coke Company) said he had read the paper with very much pleasure because it seemed to him that the problem of dealing with the reconstruction of a relatively small works had been tackled in a most interesting and practical way. He did not think it was generally realized that the problem of material handling was one of quantity and distance, and that as those two factors varied the methods that could be most efficiently adopted were different. For the size of works under consideration neither quantity nor distance justified the use of conveyors, and Mr. Woodall was, therefore, on the right lines in relying on the use of cranes. The idea of utilizing the crane to obtain sufficient height in order to avoid underground construction was wise as it considerably reduced capital cost and, as the author rightly stated, was much more convenient when carrying out maintenance work.

He had made a note to draw attention to the fact that bulldozers were not used, but that subject had been dealt with by Mr. Lawrence. He would, however, point out that they did not require a large number of them. One small one would do quite a lot of work on a small works, and could afford a most valuable contribution in moving coal or even oxide stocks, and as they could now be obtained in quite small sizes they were suitable for relatively small installations. That type of plant would, he thought, be more widely used in the future. The author's remarks with regard to large purifying installations utilizing a small number of large boxes were very much to the point. The ideal arrangement would be, of course, a large number of boxes for any given throughput, so that the process tended to be as near as possible to a continuous operation. The increased capital cost of an installation arranged in such a manner was the reason that it had not been widely adopted in the past, but that point should have very careful consideration, because merely to reduce the capital cost of purification to a point where it made it difficult and inconvenient to operate was a very doubtful policy. Furthermore, it was in itself a temptation to hesitate in changing the boxes with sufficient frequency. It surely could not be considered an ideal condition if the oxide had so hardened that pneumatic hammers were required in order to cut it out.

Liquid Purification

The author's plea for liquid purification brought back to his mind some observations in an early minute book of the Gas Light and Coke Company. In 1817 certain directors journeyed by stage coach to Exeter to investigate a system of dry purification, which he believed used iron oxide, and although they went to that great amount of trouble they did not appear to be convinced and still continued with liquid purification for several years before adopting a dry method, even though they were being most violently and justifiably attacked by local authorities and property owners for the nuisance they were causing by the discharge of the effluent from the system they were then using. It was interesting that the iron oxide method did not come into general use for over half a century. He had quoted this little point because perfection was so seldom attained and the use of new processes too often brought new troubles in its train.

Mr. **W. Storey** (Barnet) referred to an agricultural cultivator which they had been using at Barnet. They had been looking for something of the kind for some years, and they had selected a rotary hoe. It was of quite robust construction, powered by a petrol engine and operated by one man who worked on the side. The controls were capable of being swivelled so that it was not necessary to walk over the work that was being done. He could not claim that the machine was a complete answer to the question of mechanical revivification of oxide, because it would not deal with large lumps. If they had hard oxide and did not deal with it straight away it became uncontrollable and the oxide had to be broken up before they could use it. It would be interesting to know what sort of life Mr. Woodall got from his purifier grids and how much dust he got by discharging the grab into the dumpers and then dumping the oxide out on to the floor. He noticed also that the author had not referred to the water gas plant. He was evidently very pleased with the Gibbons charging machine as compared with the projector, but he wondered whether he would find that the wear and tear on the bottom of the retorts was greater than with the projector type of machine. Mention had been made of the installation of the pan ash washing plant. He thought the better way was not to have internal producers, but to put in external producers.

Mr. **J. G. Abbott** (Windsor) observed that the structure of the charging machine was much heavier than that of the older type, and he asked whether the author had found any undue wear on the bottom of the retorts.

Arduous Jobs Must Go On

Mr. **G. L. Braidwood** (Gas Light and Coke Company, Southend) said Mr. Woodall was to be congratulated on the initiative and energy with which he had tackled his problems. A lot had been done in the past, and was still being done, to improve the conditions in the gas-works, but it would be agreed that they had still a considerable way to go, and he believed that for a long time to come there would be in the gas industry, as in many other industries, dirty and arduous jobs still to be performed. There was a growing feeling that while those dirty and arduous jobs remained to be done they would have to be paid for at a higher rate than the more congenial tasks. The author had pointed out that oxide handling was one of the most difficult things to deal with on the works, and he noted with envious surprise that he was in the process of installing a "Colombus" pan ash washer. It was of interest to note that Mr. Woodall had reduced the total man-days for shifting 170 tons of oxide from 308 to 60, notwithstanding the fact that he was to some extent handicapped by having ground level purifiers. In his own case they actually took 27 man-days for removing what used to be 140 tons of bog ore in pre-war days, but what was now about 112 tons owing to the peat moss litter that was added. Like other speakers he was interested to know whether there was any damage to the grids. He appreciated that Mr. Woodall, having only four purifiers, was probably not able to change the boxes as frequently as he might have wished.

He had referred to the fact that he had old men turning the oxide and that younger men did not like the job and would leave after a short period. With the utmost emphasis he would like to help in dispelling the notion that they could get the best, or even satisfactory, results by regarding purification labour as the Cinderella job of the works, or that they could make up a satisfactory gang from elderly employees. Attention to the purifiers was by no means an unskilled job. A certain sense of proportion had to be preserved and care was necessary in cleaning the grids. At his works they had been at pains to form and maintain a regular gang, consisting of young and active men, the best they had in the yard, and they worked enthusiastically and pulled together, and they resisted the intrusion of strangers into the gang. They received extra money by reason of their piece time rates and overtime when required in the turning and handling of oxide generally.

With regard to the disintegrating machine, the ideal was to break the oxide down to pea size, and it appeared that in the case of Maidstone the machine mentioned by Mr. Woodall was necessary for the purpose. Several years ago he designed a breaker, by means of which three men could do in three days what the author had claimed it took 24 men to do by the more usual methods.

Some Comparisons

Mr. **J. H. Hornby** (Hastings) congratulated Mr. Woodall on the amount of information he had given in his paper. Referring to the purifiers Mr. Woodall had mentioned that a gang of 22 men used to take between a fortnight and three weeks to discharge and charge a box. He could assure him that either somebody had been pulling his leg or he had been misinformed. That might have been the case during the war years, but during his own period at Maidstone the gang consisted of up to 16 men with lorry and driver, and the emptying and recharging of a box would probably take from six to eight full working days according to the state of the purifier. He had also mentioned that it was clearly bad practice to have 25% of the total purification capacity out of action for such a long period. He did not know if Mr. Woodall had taken the opportunity to view the works plan prior to the reconstruction of the purifying plant. If so, he thought he would appreciate the difficulty of planning the work and at the same time maintaining the purifica-

tion of the gas, for it must be remembered that one set of boxes had to be dismantled and cleared from the site before the foundations and new work could be carried out. Very full consideration was given to the scheme and also to the question whether elevated purifiers should be installed with oxide floor above, but the present scheme was finally decided on and had the approval of the Chief Engineer of the Gas Light and Coke Company at that time. During the years he was at Maidstone he could remember no special difficulty in handling the work.

Purification Costs

It might interest members to know that the purifiers at Hastings were elevated, but due to supports, arches, and various connexions it had not been the practice to empty the boxes by the bottom discharge method, and, when he took over, it was the common practice to spend anything from two to three weeks in emptying and recharging a purifier. Fortunately, there was ample capacity, but even so he was of the opinion that the two extra boxes which were used as check boxes were unnecessary, for with proper supervision and control he considered four, or possibly five, boxes sufficient for any one stream providing, of course, they were of capacity to take the load. Figures had been worked out with regard to purification costs in pence per therm of gas sold for Maidstone and for two comparable undertakings in the South of England, with the following results:

Year.		Works A.	Works B.	Maidstone.
1934	...	0.32	0.13	0.69
1936	...	0.068	0.101	0.081
1938	...	0.093	0.072	0.061
1940	...	0.120	0.054	0.035
1942	...	0.058	0.135	0.164
1944	...	0.024	0.099	0.329

As a result of inspecting methods of handling at other works they had been able to reduce considerably the hard work entailed in emptying and filling purifiers, not to mention the considerable time saved.

Mr. **Woodall,** replying to the discussion, said the preparation of the paper had been justified if only because of the valuable contributions by Mr. Lawrence and Mr. Birks. With regard to the question raised by Mr. Storey on the life of the purifier grids, they lasted just as long now as before. With regard to dust, there was a certain amount but they were fortunate in having a fairly open site. The residential district was not affected very much, and there had been no complaints about the dust. There were two reasons for not mentioning carburetted water gas plant. In the first place they did not agree with it at all. Mr. Gulland, who had been Secretary of the Company for 33 years, was a great expert at selling coke and he had built up a marvellous local market. They had always endeavoured to make as much coke as they could, and therefore to produce a high proportion of coal gas. In fact when the Directors decided to put in the new plant it was agreed that as far as possible Maidstone should produce 100% of coal gas, just diluted perhaps with a small proportion of producer gas. They were hoping that in the future they would only use the carburetted water gas plant as producer. The two plants they had were installed before the 1914-18 war—away back in 1910-12.

Mechanical Producers

With regard to wear and tear of retorts as a result of using the Guest-Gibbons machine, they had not noticed any appreciable wear in the bottom of the retorts. Mr. Storey had mentioned external mechanical producers. He (Mr. Woodall) had heard that Messrs. Gibbons were contemplating putting in for the Watford and St. Albans Company an installation of horizontal chambers with external producers, but the Ministry of Fuel and Power had turned the proposal down, and they were having to have built-in producers after all. There was, he agreed, a lot to be said for mechanical producers. He saw no special reason for surprise over the purchase of the pan ash washer. They had put it up to the Minister that they could save 500 tons of coke at least per year by installing the washer: they ordered it about a year ago, and were expecting delivery in about three months—a total of 15 months in all.

He appreciated Mr. Braidwood's remarks about a regular gang for the purifiers, but they could not afford it on a small works like Maidstone, where they emptied their purifiers only six times a year. Perhaps if they emptied them more often the problem would not be so difficult. He did not claim that their method of emptying the purifiers was ideal, but they h the ground available and it was the best under the circumstances So long as they could do a box within a week they could quite well run with three or four boxes.

Mr. **W. A. Barnett** (Snodland) proposed and Mr. **H. W. Moys** (Gas Light and Coke Company) seconded, a vote of thanks to the author, to which Mr. Woodall briefly replied.

A CONFERENCE ON DESIGN

AT Gas Industry House, on Mar. 8, a most interesting meeting of the Headquarter members of the Women's Gas Council was held to discuss broadly the question of what constitutes good design, and how formulated tenets of design can be quickly and efficiently applied in practice. The meeting was admirably organized and took the form of a Brains Trust on the subject, the chair being taken by Miss K. M. Halpin, O.B.E., Chairman of the W.G.C. The absence of formality about the meeting, though there were a few special speakers to give the discussion a proper framework, helped greatly towards the success of the gathering.

Those who spoke from the platform were Miss Battersby, of the British Colour Council, Mrs. D. Braddell who, as a designer, is well known to the Gas Industry, Miss M. Godby, formerly of the Gas Light and Coke Company and now Technical Adviser to the W.G.C., and Mr. L. Hardern, Public Relations Officer to the Gas Light and Coke Company. It is not our intention in this brief note to go into any great detail regarding the many points raised and discussed but we should like to give a brief outline of the substance and purport of what was said, and of the suggestions made. It should be added that the meeting was fully attended by the Secretaries of the various branches of the W.G.C. throughout the country whose activities and responsibilities are obviously on the increase.

Suggested Design Committees

Mr. **Hardern** put forward the view that the Women's Gas Council could do work of national importance by arranging for each branch to set up a Design Committee to study the design of existing gas and coke equipment, to formulate criticisms and suggestions and forward these to Headquarters. At Headquarters there should be a Central Design Committee which should study all these criticisms and suggestions, eliminating any which from its more specialized knowledge it knew to be impracticable, and then approach the manufacturers concerned, either through the Society of British Gas Industries, or direct,, and offer its services in a critical capacity for both existing and future models. Luckily the number of manufacturers of gas and coke equipment was fairly small, so that once a start was made it would not be long before the whole ground was covered. He was not going to pretend that the manufacturers would agree to the proposals immediately they were suggested to them, but he did feel that with tact and reasoned persuasion it would be possible to obtain their co-operation.

What Mr. Hardern visualized was a two-way traffic between manufacturers and members of the W.G.C. Suggestions and criticisms could come from the members through the Design Committees and the Central Design Committee to the manufacturers, and he looked forward to visits of members of the Central Design Committee to the works of the manufacturers.

This, we think, was the overriding theme of the meeting which was characterized by full and free discussion of many aspects—basic, aesthetic, and practical—of design.

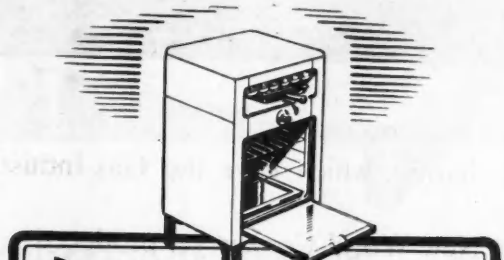
Mrs. **D. Braddell** emphasized that, in the selection of gas appliances for the home, thought must be given to colour schemes as a whole when deciding on the colour finish of any particular piece of apparatus; and while she in no way minimized the faults of the brightly coloured appliances she also had a good word to say for those which were finished in more subdued hues. Nor did she neglect the more general aspects of appliance design.

Miss **Battersby** maintained that the feminine spirit is the creative spirit of mankind and that on this hypothesis it was the duty of women not only to understand the use of domestic equipment but to criticize its performance and offer constructive suggestions for its improvement.

Practical Experience

Miss **Godby** went to the heart of things when she said that the woman who is going to be the greatest help to the manufacturer must have a thorough practical experience of her job as housewife; at the same time she must have sufficient business sense to realize that what the manufacturers make must be a sound commercial proposition since it had to pass through channels of commerce to reach the home. She must also appreciate that there were some difficulties of manufacture which could not easily be overcome; on the other hand, the manufacturer had been known to say something was too difficult because he had not appreciated the reason why a woman asked for it. An

The first name, and last word in Clean-line Gas Cookers.....



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Pioneering research by Radiation, which gave the Gas Industry the famous Regulo, now offers the most efficient New World Cooker yet produced—the No. 1430.

Designed for ease of cleaning, economical gas consumption, high cooking efficiency, attractive appearance, simplified servicing and lasting wear, the No. 1430 is far ahead even of the high standards set by previous New World Models.

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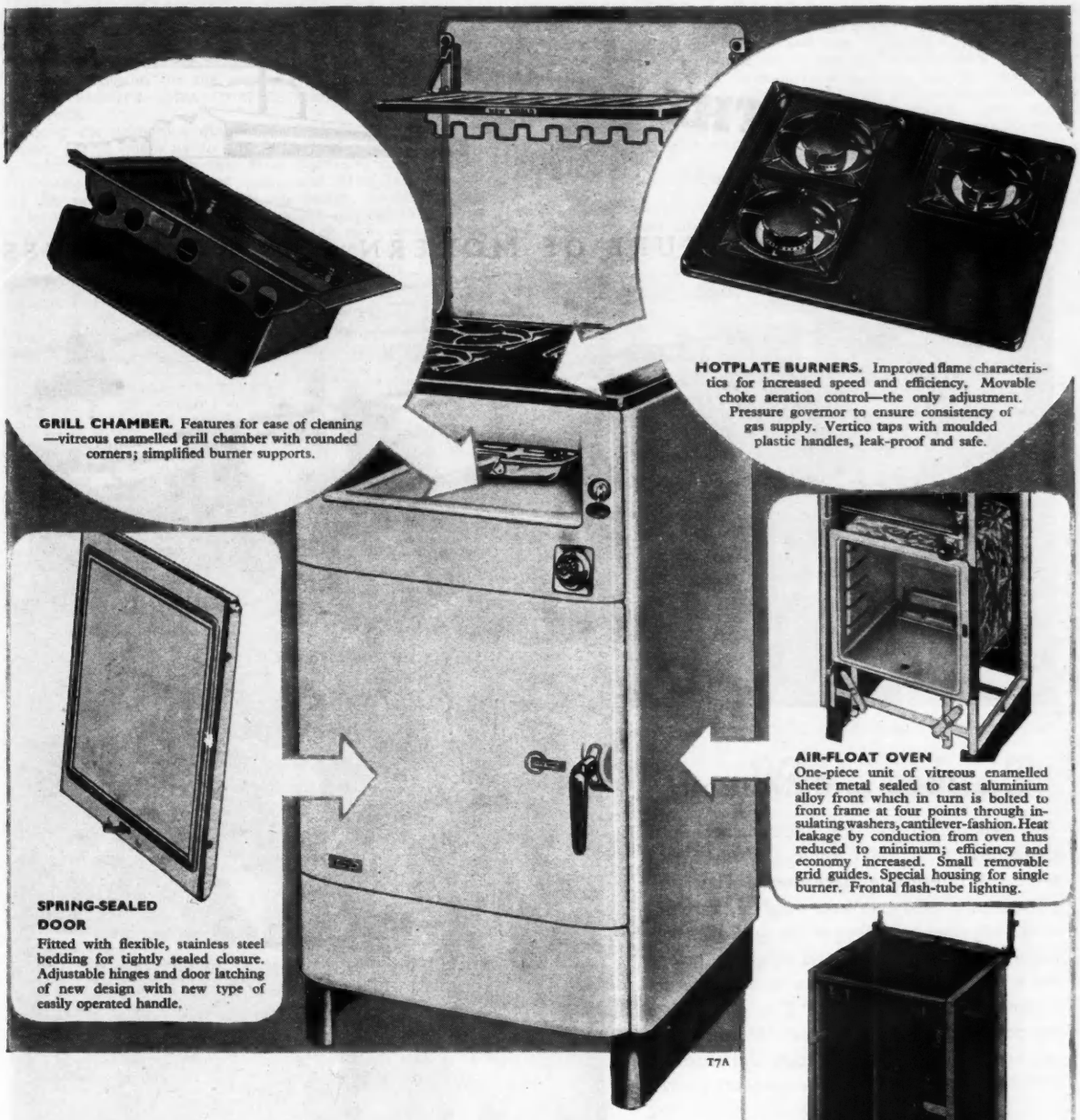
NEW WORLD NEW WORLD NEW WORLD



GRILL CHAMBER. Features for ease of cleaning —vitreous enamelled grill chamber with rounded corners; simplified burner supports.

HOTPLATE BURNERS. Improved flame characteristics for increased speed and efficiency. Movable choke aeration control—the only adjustment. Pressure governor to ensure consistency of gas supply. Vertico taps with moulded plastic handles, leak-proof and safe.

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Fitted with flexible, stainless steel bedding for tightly sealed closure. Adjustable hinges and door latching of new design with new type of easily operated handle.

T7A

AIR-FLOAT OVEN
One-piece unit of vitreous enamelled sheet metal sealed to cast aluminium alloy front which in turn is bolted to front frame at four points through insulating washers, cantilever-fashion. Heat leakage by conduction from oven thus reduced to minimum; efficiency and economy increased. Small removable grid guides. Special housing for single burner. Frontal flash-tube lighting.

CHASSIS CONSTRUCTION
New conception of cooker construction. Light yet strong chassis bears all the structural stresses. In it oven and hotplate units are securely held as separate self-contained demountable units.

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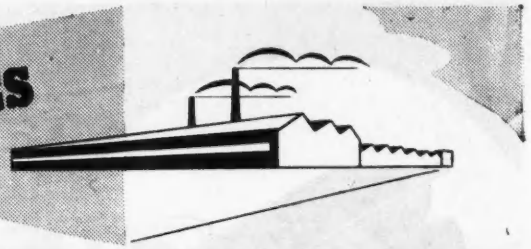
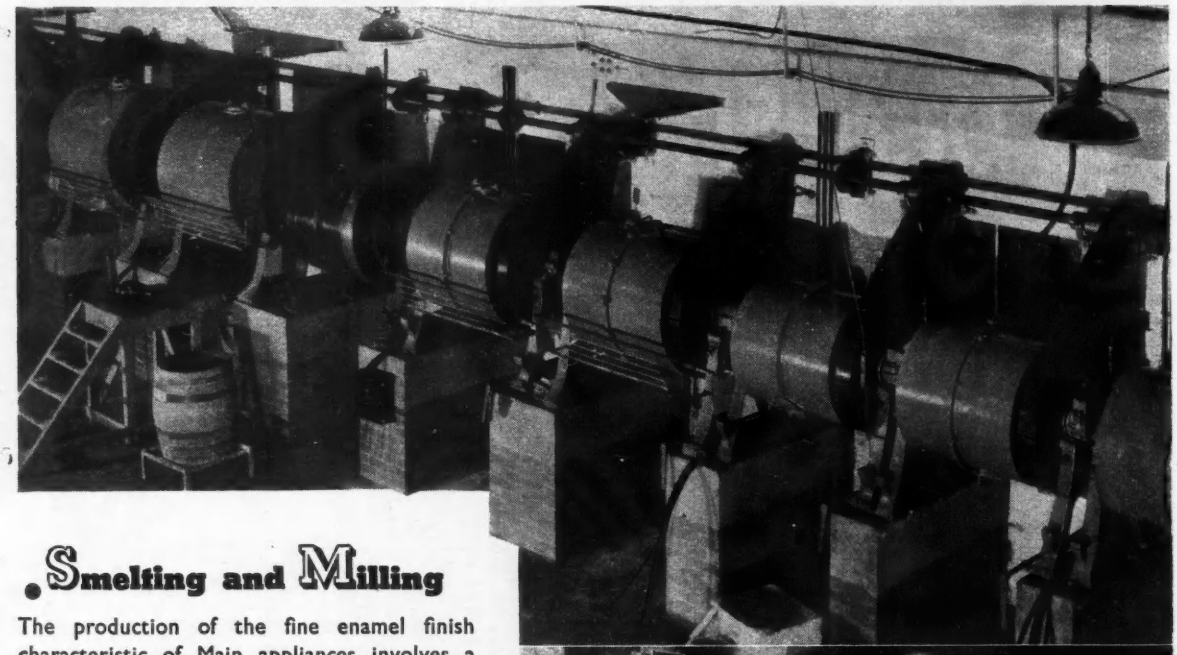
BEHIND THE SCENES



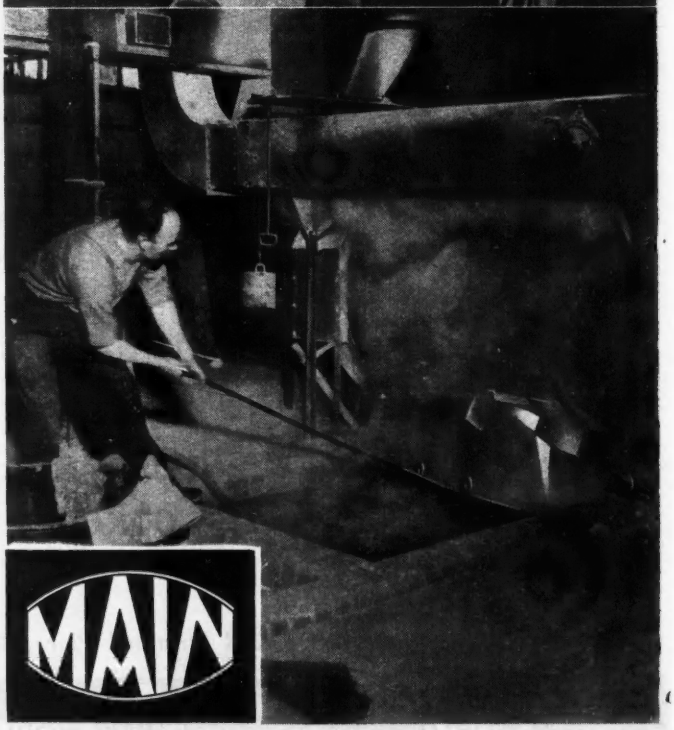
IN THE MANUFACTURE OF MODERN GAS APPLIANCES



Smelting and Milling

The production of the fine enamel finish characteristic of Main appliances involves a series of interesting operations. First, the powdered ingredients are weighed, carefully mixed together according to the type of enamel required, and put into the smelting retort. Here they are subjected to a temperature between 1,050° C. and 1,100° C. which reduces the powders to a molten mass. When this has reached the desired temperature and viscosity, the retort is revolved and the contents poured into a trough of water, which causes the "metal" to disintegrate and produce what is known as "frit." This is carefully dried, inspected and weighed and oxides are added according to the colour required. It is now ready for the "milling" process in rotary drums half filled with stone grinding balls. The "frit" is mixed with water and is ground for 8 to 10 hours until it is reduced to a smooth suspension of enamel ready for application to the various parts of gas appliances requiring this particular finish.

The upper illustration shows rotary grinding mills, the lower, white-hot "metal" being poured from the smelting retort.



MAIN

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example of this was the simmering ring which had always been put at the front of the cooker owing to the fact that it was easier to obtain good combustion if the higher rate ring had a long shank. Now the manufacturers had realized that there was a good reason for the woman's requests and had achieved what she required. Many post-war cookers had the small ring at the back.

Among the numerous questions asked during the general discussion was a query as to whether there were any basic rules for teaching design. To this Miss Battersby replied that there were basic principles if not rules, and Miss Halpin suggested that the proposed study groups on design, to be organized at the local branches of the W.G.C., might concern themselves with formulating these principles. Pressed for more detail about the principles themselves Miss Battersby said that they fell into two main categories. Design should be (1) congrous, *i.e.*, show fitness for purpose; (2) artistic, *i.e.*, appeal to the eye, be harmonious and well balanced.

Another question was whether efficiency should get first consideration before cost and appearance. This was emphatically asserted while it was to some exten taken for granted that good design implied both good appearance and efficiency. "Why then," it was asked, "if efficiency gets first consideration, are the ovens of gas cookers still far too low?" Miss Godby assured the questioner that efforts were now being made to build ovens level with the hotplate.

And a further question raised was, what steps could be taken by the W.G.C. to advise manufacturers? Miss Godby had two suggestions: (1) That, at each local meeting, one particular piece of apparatus should be discussed; (2) that groups should make an effort really to learn something about design. They should get good designers to come to them, and should go to manufacturers and visit works.

"Coal in the Bath" Fiction

Finally, there was a question whether equipment was, in fact, being misused, to which a Housing Officer in the audience replied that this was not so. Young housewives were eager to learn how to use new equipment. Another speaker from the floor endorsed this; "coal in the bath" stories were no longer true.

After an argument on the marriage of form and function in which many participated the Chairman summed up by saying that the subject "Design" had proved most provocative.

During the second day of their conference the Branch Secretaries of the W.G.C. decided to put before their members the suggestion to start study groups on design, and it is hoped at Headquarters that many groups will accept the idea.

COMPANY MEETINGS

BRIGHTON, HOVE, AND WORTHING GAS COMPANY

THE Annual General Meeting of the Brighton, Hove, and Worthing Gas Company was held at the Company's offices, 5, Great Winchester Street, London, E.C.2, on Mar. 12, Mr. Arthur M. Paddon, M.I.C.E., Chairman, presiding.

The CHAIRMAN, in moving the adoption of the Report and Accounts, said: Dealing with the report it will show you that the expansion of the Company's business has continued during the twelve months under review and that you will receive dividends to the maximum extent that is permissible under the restrictions imposed upon us, and, looking back over recent years, the Company have not been very exorbitant in that connexion. The highest dividend we have paid was £7 10s.%, and the lowest down to £3 2s. 6d., and that in connexion with a highly competitive industry, I think you will agree, is not incontinent.

The tables on pages 4 to 7 explain to you the exact position of the Company in regard to capital at the present time. Taking the revenue account in the penultimate paragraph on page 8 there are certain entries to which I think your attention should be drawn. The first is the allotment of profit to the co-partnership fund of £11,117; to co-partners' contributory pensions fund, £36,412; to employees' sick and benefit and hospital provident funds £2,040, or an aggregate somewhere in the neighbourhood of £50,000, which is the fruition of co-partnership as it has developed up to to-day. Perhaps you will note these figures because they are important.

With regard to the profit and loss account, the significant figure is that whereas we brought in practically £31,000, we take out of this account, having satisfied all demands, over £34,000.

Turning to the balance sheet you will observe that the investments of the Company show a book value of £250,529, but their market value, even in these days of depreciated values, stands at £307,063.

Losses through Nationalization

Now, I think, uppermost in your minds will be the Bill. It is so important that we circularized you with a statement, showing as briefly as possible the main direction in which your interests were affected. It will show the loss which will be inflicted upon you as proprietors if this Bill becomes an Act and you will observe the importance of this deprivation from your income. It is very drastic; it is sacrificial. The percentage of reduction is 44% on the 6% Standard Consolidated stock, nearly 40% on the 5% Standard Consolidated stock and 25% on the 5% debenture stock. It will be interesting to realize what this means among the different elements of the proprietary—nearly three-quarters of our stockholders are holding stock not in excess of £500, and the return from that cannot form a very large element in any income, but these investments represent in many cases the thrift and savings through several decades of our own workpeople, and the curtailment of dividend in their case will make all the difference between competence and penury. That is what the effect will be of the disastrous, the penalizing effect of the proposals as they are adumbrated in the new Bill to-day.

The End of Co-Partnership

Although, to put it mildly, there are many ambiguities in the Bill, one thing is perfectly certain and that is the complete destruction of co-partnership. Now, assuming that is the text, I think I may tell you shortly what co-partnership has meant to the Company in the past. In the first case it has provided a means of settling differences between the Company and its employees and nearly all the employees of the Company who are eligible are co-partners—over 1,000. Since the co-partnership scheme was formed 25 years ago, or thereabouts, it has dispersed £212,500 to the co-partners—a purely gratuitous concession and gift from the proprietors to their workpeople without any relation whatever to the wages earned or received. The present amount of the fund is £158,642 and the largest amount received by an individual on leaving the scheme up to date is £475. That applies to the lowest wage earner of the Company as it does to the highest, because all co-partners under this system are on an equal basis.

Only to-day the Board will be passing the payment to a worker of £420 and he will receive that in addition to his pension. He will receive, too, all the benefits that have accrued from co-partnership, to which I drew your attention when referring to the revenue account, which amounted to nearly £50,000. Well, those are benefits, gentlemen, which if they are of any real value will be fully missed. The attitude of the Bill towards co-partnership is to destroy it root and branch and I can only think that something like insult to injury is added in doing so.

Now, I would just like to draw your attention to the treatment of co-partnership by the Bill. In the first instance I would draw attention to co-partnership in debates in the House. In Clause 56 of the Bill the closing words of the first paragraph, in which they announce their intention to eliminate co-partnership, they describe their arrangement in this way: "Any class of persons so employed, to participate in the profits of the undertaking as part of the terms of remuneration for their services." Now you know that is a gratuitous misstatement, a gratuitous libel, I may say, on the true character of co-partnership.

The benefits of these amounts I have mentioned to you have been completely independent of anything owing to the worker, as wages or remuneration, but here co-partnership is referred to in explicit terms as forming part of and therefore a deduction from the payment of the employee. Now, you know, that is a gratuitous aspersion on the system that has inured for the benefit of the employees for over 25 years to the extent that I have mentioned to you. Then the Bill goes on to say: "The scheme and any local enactment relating thereto shall cease to have effect as from the vesting date" of the undertaking. That is, I think, the death sentence of co-partnership.

Points from the Debate

There are certain references in the debate in the House of Commons which call for attention as showing the way in which co-partnership is regarded by this Government, by the party now in power. Mr. Gaitskell is reported as saying—I think this is taken from Hansard—"that the Gas Light and Coke Company, by far the largest gas undertaking in the country, has a so-called partnership scheme which really is not one at all. It is a scheme for a bonus based on the total gas output which, of course, is not necessarily related to profits." Now these co-partners in this Company—and I am now speaking for them—are also proprietors: they are shareholders. Can there be a more complete union than that the employees should hold shares in the undertaking employing them? That shows how gratuitous that reference is.

A little later on Mr. Gaitskell gives us a further favour of his views. "What we cannot do is to continue the pure co-partner-

ship schemes, and I may say that the trade unions with whom we have discussed this matter are fully in accord with this and do not appear to regret the end of co-partnership." Well now, gentlemen, from the very inception of co-partnership—and perhaps I am competent to speak, because I have incepted many schemes and been responsible for many others, from the very first, this scheme, solely for the benefit of the employees, at the cost of the employers, has been subjected to the jealous aversion of politicalized labour, and if there is any doubt about it up to the present moment these words will confirm what I am saying.

Mr. Williamson, who was I think Member for Brigg, but who has since retired, said: "I would say to the Rt. Hon. Member that there has not been any real co-partnership. There has been a payment, which has been called co-partnership or profit sharing, but I say without hesitation that the organized trade unions involved are not sorry to see the last of that system." So now you know how co-partnership has been regarded by one element of the industrial world from its inception, but they cannot invalidate or destroy the trend of the figures I have put before you to-day.

Inherent Fount of Mischief

I may say that the inherent fount of mischief in this Bill does not subsist in relation to the gas industry—it is deeper and far wider spread than that. It consists in the power assumed by the Minister or any Minister in his place to make regulations at his own sweet will having all the powers and efficacy of law. Now that simply implies the violation of one of the fundamental basic liberties of the public—the right to appeal to the Courts of Justice.

There is a little phrase which I think you might almost memorize in Clause 66: "Any power conferred by this Act to make regulations or orders shall include power to provide by those regulations or orders for the determination of questions of fact or of law." Fact or law! Hitherto, it has been reserved strictly to the executive courts of the country, to the High Courts of Justice, but in this wording no one has a right of appeal to the law of his land or the judicial practices qualifying it, and in any matter affecting him or in which he may be interested the protection and defence of the law is denied to the individual in regard to any regulation the Minister may care to make on his own volition.

It is now some years ago, unless my memory fails me, since Lord Chief Justice Hewart described this anomaly in terms far more adequately than I can employ. He pointed out that the freedom of the people since the time of Magna Carta down to the present day is violated when Parliament makes regulations and administers them. Every one of you knows quite well that every utility undertaking must have regulations. Parliamentary policy in the past was this—to give to those who required regulations the power to make those regulations, but it reserved to the Courts subsequently to pass, cancel, or annul those regulations if they offend against the law of the country, and everybody had the right of appeal against the regulations so made. That is denied under this Bill, but we are under it and I do not know what we can do with it. I am sure all the representatives in Parliament will do all they can to state our case, but I am afraid the ultimate outcome is inevitable. The proprietors will be robbed, the co-partners' position will be destroyed, but in the ultimate event the utter malice and evil of this Bill will fall upon the public in general as gas consumers.

The Chairman concluded by moving the adoption of the report and accounts, which having been seconded were carried unanimously.

The Chairman then moved the dividends, as recommended in the report.

Commander Hyde Burton's Views

Commander Hyde C. Burton, F.C.A., in seconding the motion, said that they had all heard Mr. Paddon speak with great eloquence on the subject of the Gas Bill. So far as their own industry was concerned all the protection as regards price, built up by Parliament over 100 years, had been entirely and absolutely swept away. The Minister had actually refused to accept an amendment to the Bill in which it was laid down that one of the principal objects of the Bill was to provide for consumers a cheap and abundant supply of gas. In his view the transfer of the basic industries meant not only the destruction of the whole economic fabric upon which this country's conception of civilisation was based, but was the forerunner of an inevitable reduction in the standard of living. In their case the consumers of gas were going to be the people who were ultimately going to bear the cost.

The dividends recommendations were then approved and the other formal business having been duly transacted the proceedings terminated with a cordial vote of thanks to the Chairman, Directors, and staff.

Extraordinary Meeting

The annual meeting was followed by an Extraordinary General Meeting at which the following resolutions, proposed by the CHAIRMAN and seconded by Mr. FRANK H. JONES, M.I.C.E., Deputy Chairman, were carried unanimously:

"That pursuant to the powers of the Brighton Gas Acts and Orders, 1839-1937, and the Gas Undertakings Acts, 1920-1934, the Directors be and are hereby authorized to raise in the manner provided and subject to the provisions of the said Acts and Orders the sum of £200,000 (being the balance of the additional Capital authorized by the Brighton Gas Order, 1937) by the creation and issue of 5% or 6% Standard Consolidated Stock or of Irredeemable or Redeemable Preference Stock at such times in such amounts in such manner and upon such terms as they may from time to time determine to be requisite for the purposes of the Company."

"That the application made by the Directors to the Minister of Fuel and Power for an Order under Section I of the Gas Undertakings Act, 1929, empowering the Company to borrow on Mortgage of their Undertaking or by the creation and issue of Debenture Stock, any amount not exceeding the aggregate amount of the paid-up share capital of the Undertaking for the time being and of any Premiums paid in respect thereof be hereby approved."

GAS UNDERTAKINGS' RESULTS

Cheltenham and District Gas Company.—The accounts for 1947 show a trading profit of £28,831, which is rather better than for 1946 and enables the Company to pay a recommended final dividend of 2½%, making 5% for the year, leaving a balance to be carried forward of £24,666, or approximately the same amount as that brought in. The Company sold nearly 3% more gas than in the previous year, but used less coal by 11,917 tons, or about 15%. Considerably more oil and coke was used to make carburetted water gas. During 1947 the Company sold gas appliances to the value of £82,476, including fitting work, &c., and there was great activity in the home service department, with weekly demonstrations.

Newport (Mon.) Gas Company.—Gas sales for 1947 set up a new record, being 8.79% over 1946 and more than 4½ times the sales of 1938, excluding the supply in bulk to Chepstow and Caldicot. The sales of these two adjacent companies show an increase of 168% compared with the last complete year prior to the bulk supply. Including the supply to those two companies the output is five times as great as in 1938. The revenue account shows a profit of £28,636 compared with £43,666 for 1946, and a final dividend of 4½% has been declared for the half-year ended Dec. 31, making with the dividend paid for the previous half-year a total distribution of 7%, less tax. A balance of £23,143 is carried forward against £16,689 brought in from the previous year.

Stamford and St. Martin's Gas Light and Coke Company.—In his address to stockholders at the annual meeting the Chairman (Mr. J. S. Prior) said that in spite of the many difficulties the Directors were able to present a report which revealed satisfactory working both financially and in regard to efficiency. There was a decrease in the profit on the revenue account, due to increased costs without any increase in the price of gas. The sales of gas, other than for public lighting, showed an increase of 2.3% over the preceding year. Satisfactory progress was being made with the erection of the new gasholder and with the extension to the retort house. The report showed that the result of the year's working had been a profit of £3,422, and the balance available for disposal after payment of interest on mortgage, Preference dividends, and interim dividend on original stock was £7,141. It was decided to confirm the interim dividend of 7% actual, less tax, and to pay a final dividend of 7% actual, less tax.

Londonderry Gaslight Company.—Revenue profit for 1947 was £2,833, and payment of dividends of 5% on the Old shares and 3½% on the New shares, less tax, leaves a balance of £13,515 to be carried forward, compared with £13,276 brought forward from 1946. Gas output is now 74% above the highest pre-war figure, and since 1909, when the share capital was last increased, the output has gone up from 117 million to 315 million cu.ft., an increase of nearly 170%. In his address to the shareholders at the annual meeting on Mar. 19, the Chairman, Captain B. F. McCorkell, said the Company's fine record had been achieved under the guidance and management of Mr. G. Walmsley, Managing Director, Engineer, and Secretary, who had been with the undertaking for 35 years. He had given of his best to bring the Company from a comparatively small concern to what would perhaps, when nationalization of the Gas Industry in Great Britain had become effective, be then the largest gas company remaining as such in Great Britain and Northern Ireland. The annual meeting was followed by an extraordinary meeting at which the Directors were authorized to increase the share capital of the Company to a sum not exceeding £250,000, compared with the present authorized capital of £60,000.

Minehead Gas-Light and Coke Company.—Gas sales in 1947 totalled 424,978 therms and yielded £31,671; manufacturing costs amounted to £31,673. A balance of £4,260 is carried from revenue to profit and loss account. Payment of a final dividend of 3½%, making 7% for the year, will leave a balance of £1,578 to be carried forward, compared with £1,539 brought in.

Gloucester Gas Light Company.—Results for 1947 show a revenue profit of £29,977, which compares with £24,749 for the previous year. After meeting interest charges and preference dividend and writing off discount on Debenture stock issued during the year there is £17,822 available for Ordinary dividend. A final dividend of 2½% makes a total of 5% for the year, and after providing for the transfer of a small sum to reserve fund in accordance with the Gloucester Gas Order, 1945, a surplus of £4,356 remains on the year's working and as a result the carry-forward is increased to £23,623. Gas sales totalled 1,165 million cu.ft., an increase of 3% over 1946 in spite of certain reductions in the demand from industrial consumers. Agreement was reached during the year to supply the Dursley Gas Company with a maximum of 100 million cu.ft. of gas per annum from Gloucester, and the trunk main is nearing completion.

British Gas Light Company.—The profit and loss account shows that after providing for interest on debentures and debenture stocks, income tax, and other charges, and adding the sum of £18,151 drawn from the Norwich reserve fund, there remains £75,975 to be added to the £76,437 brought forward from the last account, giving a total of £152,412. Dividends at standard rates on the Preference stocks and a final dividend of 4% on the Ordinary stock, making a total of 7½% for the year will leave an increased balance of £80,168 to be carried forward. The general reserve fund stands at £275,000. The station reserve funds are exhausted by the withdrawal from the Norwich fund; the pension and superannuation funds have been increased by £4,071 to £240,961 by the addition of interest and further sums set aside at the stations. Total gas sales at all the undertakings controlled by the Company were 7¾% more than in 1946.

GAS PRODUCTS PRICES

Mar. 20

London.—There are no changes to report in the prices of Coal Tar products.

Provinces.—Average prices for gas-works products this week are: Pitch, 100s. per ton; toluole, naked, North, 90's, 2s. 4d. to 2s. 6½d. per gall.; pure, 3s. 2½d. Prices for carbolic acid 60's anthracene, creosote oil (hydrogenation), coal tar oils (timber preservation, &c.), and strained anthracene oil are controlled by Government Orders. Prices for road tar are increased by one penny per gall. by S. R. & O., 1947, 177.

Scotland.—Demand continues strongly for all products.

Refined tar.* Yield to the distiller is 6d. per gall. ex works, naked. Creosote oil. Timber preserving quality,* 5½d. to 6½d. per gall.; hydrogenation oil,* 5⅞d. per gall.; low gravity or virgin oil,† 7½d. to 7½d. per gall.; benzole absorbing oil, 6½d. to 8d. per gall. Refined cresylic acid is 3s. 6d. to 4s. 6d. per gall. ex works, naked, according to quality. Crude naphtha,† 8d. to 10d. per gall. Solvent naphtha.* Basic maximum prices delivered in bulk, 90/160 grade 2s. 10d. per gall. and 90/190 heavy naphtha, unrectified, 2s. 0½d. per gall.; rectified, 2s. 4d. per gall. Pyridine,† 90/160 grade 15s. per gall., and 90/140 grade 17s. per gall.

* Price controlled. † Uncontrolled.

GAS STOCKS AND SHARES

International affairs again influenced stock market conditions throughout last week. The passage of the Europe Recovery Bill through the United States Senate had a stimulating effect at the beginning of the week. Then came the announcement that President Truman was to address a special meeting of Congress, with a temporarily restraining influence, followed by an improved tone in anticipation of a more hopeful outlook. After slight fluctuations, British funds, on the average, finished the week on almost the same level as they began. The prospect of early aid under the Marshall Plan and the signing of the Five-Power Treaty in Brussels made for improvement in values, and nearly all departments became firmer.

Simultaneously with the Chancellor of the Exchequer's acknowledgment of the proposals of the Federation of British Industries and kindred employers' organizations for the restriction of prices and profits came the news that many of the leading industrial concerns were declaring increased dividends. On one day, among the leaders, seven showed increases, 13 were unchanged, and no reductions were announced.

In the gas stock market the number of dealings on the London Stock Exchange was 365, compared with 367 for the previous week, and there were very few price changes. Imperial Continental Gas Association improved three points from 117-122 to 120-125 on break up estimates, but other overseas undertakings remained unchanged.

The week's rises and falls were as follows:

OFFICIAL LIST

British Gas Light, 5½ p.c. "B" cum. pref.	107	—112	+ 2
Hampton Court, 5 p.c. cons. ord.	95	—100	+ 1
Imperial Continental, cap. ...	120	—125	+ 3
South Eastern Gas Corp., ord. ...	21.9	— 22.9	+ 3d.
South Suburban, 5 p.c. perp. pref.	108	—113	+ 2
United Kingdom 4½ p.c. 2nd non. cum. pref.	19/	— 20/	— 3d.
Wolverhampton, cons. ord. ...	118	—123	+ 3

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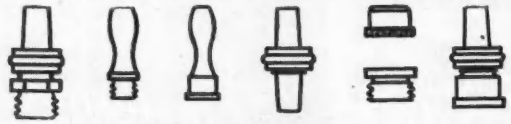

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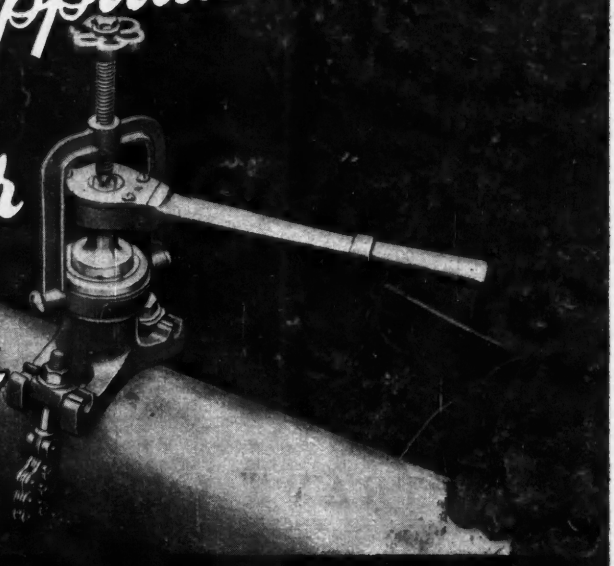

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The Corporation do not bind themselves to accept the lowest or any tender.

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J. SUDLOW,
Council Offices, Clerk to the Council.
Church Road,
Ashford Kent.
March 19, 1948.

APPOINTMENTS VACANT

None of the vacancies in these columns relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he or she is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

TIME and motion study. QUALIFIED MAN required by Midland firm employing 800 hands. Gas or electric appliance trade experience preferred. Good prospects for right man. Apply, stating qualifications, experience, salary and age, to No. 9719, "GAS JOURNAL," 11, Bolt Court, Fleet Street, London, E.C.4.

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PHILIP S. RENNISON,
Town Hall, Town Clerk.
Bolton.

YOUNG ASSISTANT WORKS CHEMIST wanted for Tar Distillery in South East England. Inter B.Sc. or equivalent. Write, stating qualifications, salary required, &c., to No. 9720, "GAS JOURNAL," 11, Bolt Court, Fleet Street, London, E.C.4.

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THE Cambridge University and Town Gas Light Company has vacancies for TECHNICAL ASSISTANTS. A wide experience is offered to young men with initiative who are willing to avail themselves of the opportunity. Applicants should hold at least the Ordinary Certificate of the Institution of Gas Engineers in Gas Engineering (Manufacture). Salary £300-£400 per annum according to age and experience. Applications should be sent to the undersigned not later than March 31, 1948.

J. HUNTER RIOCH,
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A SHIFT SUPERINTENDENT is required by the Cambridge University and Town Gas Light Company. The appointment provides a good opportunity for young men to acquire experience of responsibility for the operation of a wide variety of plant. Some knowledge of vertical and horizontal retorts, water gas and by-product plant is desirable. Candidates should possess at least the Ordinary Grade Certificate of the Institution of Gas Engineers in Gas Engineering (Manufacture). The salary will be in accordance with age and experience and the person appointed will be required to work the normal rotating six-shift week. Applications should be sent to the undersigned not later than March 31, 1948.

J. HUNTER RIOCH,
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Applications, stating age, qualifications, present appointment, and experience, together with the names of two persons to whom reference can be made, should be addressed to the Engineer and Manager, Gas Offices, Rabone Lane, Smethwick, not later than Monday, April 5, 1948.

E. L. TWYCROSS,
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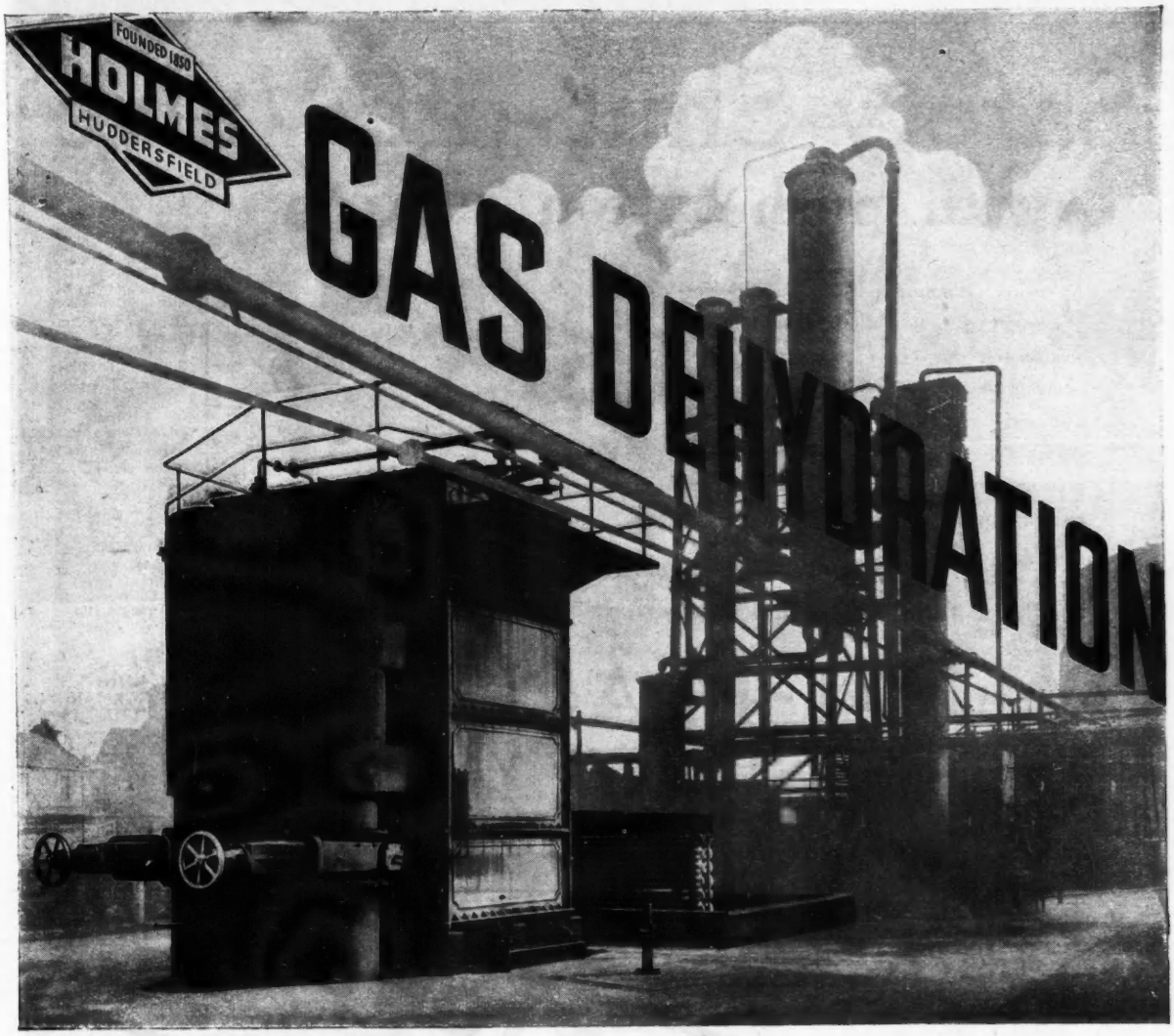

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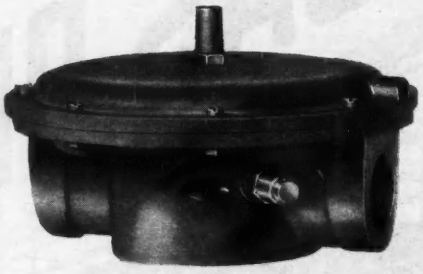

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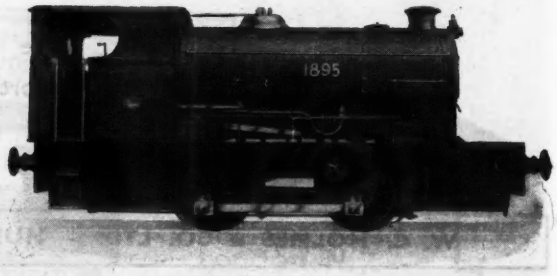

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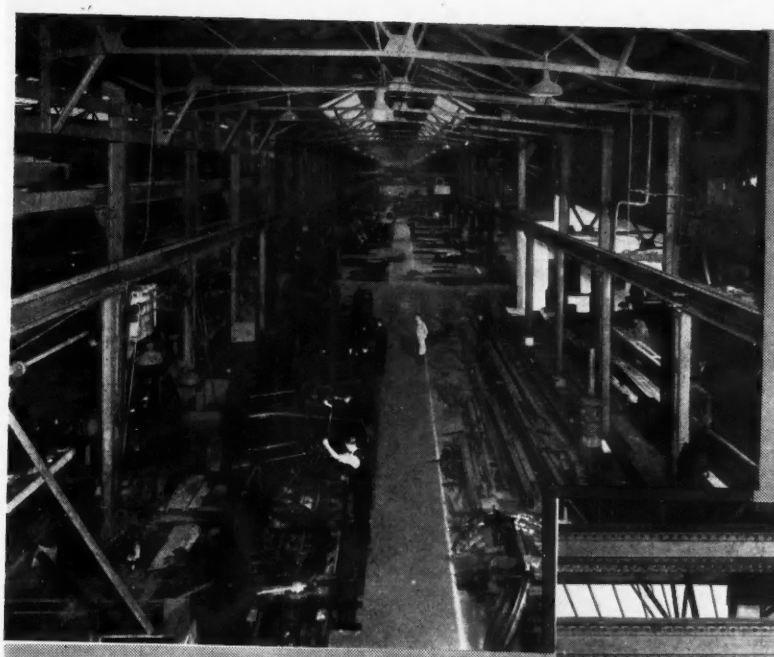

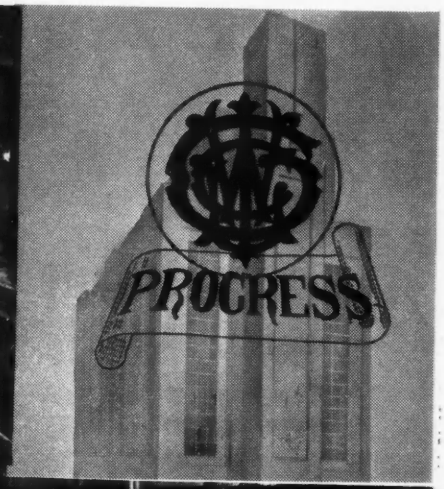

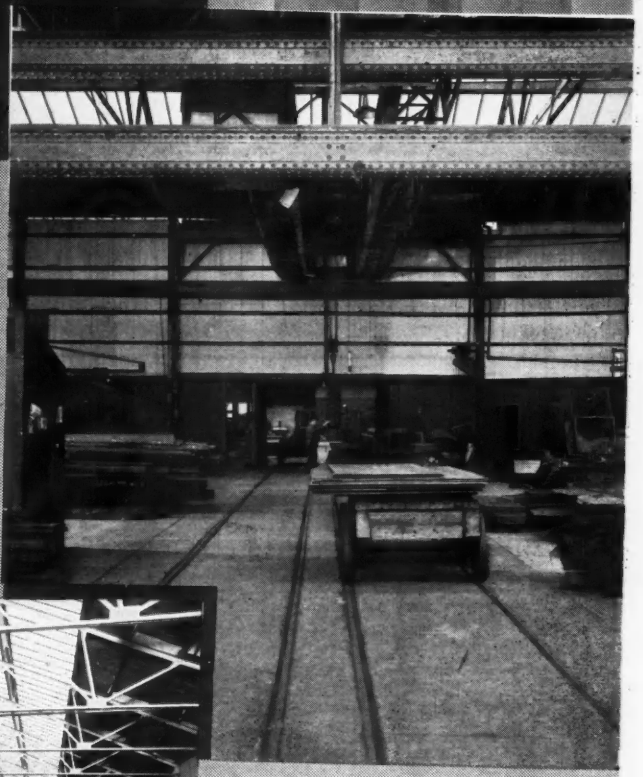

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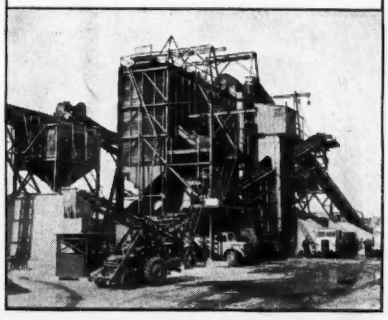
7 YEARS HARD WEAR

GOODYEAR CONVEYOR BELT CARRIES SAND, GRAVEL AND CRUSHED STONE THROUGHOUT 7 YEARS' CONTINUOUS SERVICE

Goodyear Conveyor Belt is shown here in operation at Hoveringham, nr. Nottingham



At Hoveringham, near Nottingham, the Goodyear Conveyor Belt shown here gave the Hoveringham Gravel Company 7 years' continuous, trouble-free service, during which time it carried sand, gravel and crushed stone under the following conditions of operation: load, 100 T.P.H. Variable; Speed, 160 F.P.M.; Gradient, 17.5°. (Details of the installation can be seen in the diagram.)

This fine service is typical of Goodyear belts, whose remarkable toughness is due to unrivalled research and rubber-engineering knowledge, combined with the most searching tests of every batch of every material used, at every stage of manufacture.

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